Marilyn McCord Adams

# William Ockham

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XXVI/I

MARILYN McCORD ADAMS

# WILLIAM OCKHAM

## VOLUME I

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# Preface

In the publication of a book of this size, miracles have been multiplied, but not without necessity: the first miracle was the writing; the second, finding a publisher willing and able to finance it; the third, preparing the bulky piece for printing; the fourth, the actual production! Since I finished the book in 1983, various other secondary causes have made substantial contributions to this project. I am grateful to my friend (and favorite Thomist), Ralph McInerny, former director of the Medieval Institute, at University of Notre Dame, for working out arrangements for co-publication with Notre Dame University Press. Robert Anderson spent countless hours combing the manuscript with remarkable care and patience, to free the text and the references from many errors and inconsistencies. And Kim Waterman diverted herself from the pleasures of summer to check entries in the bibliography. I am happy to thank them both.

Marilyn McCord Adams
February 27, 1987

# Preface to the 1989 Printing

Naturally I am delighted about the decision of the University of Notre Dame Press to issue a paperback edition of *William Ockham.* I take the occasion it provides for a few more explicit methodological remarks.

My principal aim in this book is to give the non-political works of William Ockham an accurate reading. My method is to meet his writings in philosophy and theology as he intended them to be met: philosopher-to-philosopher, and to give his ideas and arguments an analysis as philosophically fine-grained as the texts themselves. Ockham was a great thinker; his works deserve it. When I began this study, they had yet to get it!

History of philosophy comes in many varieties. My approach in this book treats history of philosophy first of all as a way of doing philosophy, which takes as colleagues and discussion partners the great figures of the past. My interpretation of the philosophical enterprise places the understanding of philosophical problems front and center, and sees the conceptual mapping of competing solutions, the weighing of comparative costs and benefits as means to that end. If we make progress on this project through philosophical discussion with others of differing viewpoints, history of philosophy recognizes the advantage of seeking interlocutors in the past and not merely the present, in our efforts to detail such conceptual maps.

The historian of philosophy, like any fair-minded discussion partner, must listen hard to what the other philosopher is saying, and try to enter into his/her point of view, to appreciate the strengths and weaknesses from the inside, to identify the intuitions and assess the arguments on which it is based, and to place it among the range of solutions to various philosophical problems. These tasks are made the more complicated by the fact that the discussion partner is in the past, unavailable for *viva voce* exchange, accessible only through the written page. Moreover, past figures philosophized in different contexts, philosophically, socially, and culturally. Reconstruction of the latter two aspects falls primarily

within the province of the historian, but the first belongs squarely to the field of philosophy. History of philosophy requires attention to philosophical debates among past philosophers, because only these can expose *their* conception of philosophical problems and allow us to see how and ponder why they were the same as or different from contemporary approaches.

Accordingly, I count my march through the five principal fields Ockham plowed *philosophical,* because I concentrate on philosophical and theological problems – on analyzing, comparing, and contrasting Ockham's solutions to them with those of his eminent predecessors (e.g., Thomas Aquinas, Henry of Ghent, Duns Scotus) and contemporaries (e.g., Henry of Harclay, Walter Burleigh, Walter Chatton, Peter Aureol). At the same time, I count this work *historical,* insofar as I have tried to reconstruct *their* debates, to discover *their* conceptions of the problems and difficulties, and to understand *their* solutions to them. While my focus is on Ockham, I have tried to provide philosophers and intellectual historians with wider access to important ideas and controversies in the philosophy and theology of the late thirteenth and early fourteenth centuries. I hope, too, that my analysis lays the foundation for a reassessment of Ockham's overall place in the grand sweep of the history of philosophy, and of his influence on later thinkers and periods.

Finally, I wish to thank those meticulous reviewers, Professors Martin Tweedale, of the University of Alberta, and Paul Spade, of Indiana University, who discovered a number of serious typographical mistakes in the first printing and notified us in time to correct them.

Marilyn McCord Adams
Feast of St. Augustine, 1989

# Acknowledgements

One of the rewards of writing a book is the opportunity to acknowledge many professional debts. I now claim that prerogative.

"A student is not above his teacher...it is enough if he is like his teacher." When I took Max Fisch's Greek philosophy course twenty years ago, I learned that philosophy, like religion, begins in wonder and ends in awe. He also taught me that a historian of philosophy must never depend exclusively on secondary literature but must begin and end by listening to the primary sources. His integrity, thoroughness, and openness to new interpretations are a model and an inspiration. Norman Kretzmann introduced me to medieval philosophy and to William Ockham in 1963. I cut my teeth as a medievalist working with him on *Ockham's Predestination, God's Foreknowledge, and Future Contingents*, and learned far more than I noticed at the time or could account for now. He has put many other opportunities for professional development in my path, and I want to thank him for his continuous support and encouragement. Nelson Pike showed me the importance of the medieval tradition for theology and philosophy of religion. He also taught me most of what I know about philosophical writing, and this book owes whatever clarity and organization it has to him. My greatest philosophical debt, is, of course, to Ockham himself. When I meet him in the next life, I shall have to thank him for many lessons in metaphysics, epistemology, and theology, and for a decade of entertainment!

An historian of philosophy cannot work without texts. In this regard, all Ockham scholars have been blessed with the work of the Franciscan Institute at St. Bonaventure, New York. Following on the pioneering work of Philotheus Boehner, Fr. Gedeon Gál, OFM, has directed a team of editors in preparing critical editions of Ockham's non-political (philosophical and theological) works. The first volume was published in 1967, and by the time this book appears all volumes should be printed or

in press. We can expect the dissemination of these accurate texts, and the translations they spawn, to produce an explosion in Ockham studies at all levels. The Institute's hospitality to me over the last dozen years has been a paradigm of Franciscan generosity. Much of my work antedated or was concurrent with their preparation of the critical editions. During my frequent visits (since 1971), the editors cheerfully made their resources available to me—transcriptions of manuscripts, advance typescripts of the critical edition, new discoveries about Ockham's sources and opponents, etc. Their assistance has improved the present book in countless ways. The readiness—especially of Fr. Gedeon Gál, OFM, general editor; editors Girard Etzkorn and Rega Wood; and the Institute's director, Fr. Conrad Harkins, OFM—to share their work, their knowledge, their homes and dining rooms, and their friendship is all too rare in the academic world and best repaid by following their examples.

Over the last ten years, my colleagues and students at UCLA have patiently endured someone struggling with a big manuscript. I am grateful to my colleague Tyler Burge for reading some chapters and setting me straight on a number of issues related to the philosophy of language. Montgomery Furth, through his writings and discussion, taught me a lot about Aristotelian hylomorphism. Donald Kalish, who loves logic, has patiently reviewed with me many and varied points. Jim Read wrote a fine paper on Scotus's theory of causality, from which I learned a lot. During his visits to UCLA over the last several years, Fr. Allan Wolter, OFM, has tried to teach me about Duns Scotus, whom Ockham regarded as his most distinguished opponent. No doubt, I could have learned more, had I not stubbornly clung to my own interpretations! My husband and colleague, Robert Adams, now knows more about Ockham than he ever dreamed he would: his comments, philosophical and editorial, have been invaluable; his toleration for and encouragement of this project, *sine quibus non*.

During my sabbatical at Princeton in 1979–1980, I enjoyed

the chance to participate in an Ockham-reading group, organized by Calvin Normore and including Michael Frede, Paul Streveler, (sometimes) John Boler, Peter King, and Chris Martin. Our detailed philosophical discussions of these texts and Ockham's positions were a rare treat, which has shaped my views of Ockham's metaphysics, logic, and epistemology in many and subtle ways. I cannot thank them enough for the experience.

Materially, this book has been heavily subsidized by UCLA in the form of salary, numerous travel grants, a research assistant and a sabbatical year in 1979–1980. At the end, our chairman David Kaplan moved administrative mountains to get the manuscript typed; Diane Wells, Brooks Vedder, and others at Central Word Processing spent hours at their keyboards; and my research assistant Steven Livesay patiently endured the task of changing hundreds of references from the incunabula editions to the new critical editions. I am grateful to all of them for their support and help.

All good things come from God. Last and most of all, I am happy to thank Him for allowing me to work on this project and for anything that is of value in it. The remaining mistakes are my own responsibility.

Marilyn McCord Adams
May 9, 1982

# A Note on Ockham's Life and Works

William Ockham was born before 1290 (c.1285), probably in the village of Ockham near London, and entered the Franciscan order at an early age. The first certain date in his life is February 26, 1306, when he was ordained subdeacon of Southwark, in the Diocese of Winchester. He was licensed to hear confessions on June 19, 1318. If he followed the normal course, Ockham began his theological studies at Oxford in 1309. After five years of work, he would have given cursory lectures on the Bible for two years. Between 1317–1319 he commented on Peter Lombard's *Sentences*, thereby arriving at the rank of formed bachelor (*baccalarius formatus*), and in the following two years he completed the requirements for the degree of master of theology. Ockham never became a regent master (*magister actu regens*), occupying the Franciscan chair at Oxford, partly because there were many in line ahead of him and partly because of the opposition of the chancellor of the university, John Lutterell. Following his studies, Ockham probably went to the *studium generale* of the London Custody, where he taught and wrote philosophy until 1324, finishing all of his non-political works. It is likely that he lived in the same house as Walter Chatton, and the running debate between them is reflected in the writings of both philosophers. In 1323 Lutterell went to the pope in Avignon with a list of 56 allegedly heretical theses extracted from Ockham's writings. Ockham was summoned to Avignon to answer these charges in 1324. Two years later a papal commission declared 51 propositions open to censure, although none of them were formally condemned by the pope. During his stay in Avignon, Ockham got involved in the controversy between the pope and the Franciscan order regarding Franciscan poverty. In conversation with Michael of Cesena, the minister general of the order, Ockham researched the issue and concluded that John XXII was contradicting the Gospels and earlier papal pronouncements and therefore was no true pope. After committing these accusations to writing, they left Avignon with the seal of the Franciscan order and were subsequently excom-

municated. In Pisa they accepted the protection of Louis of Bavaria, whose election as Holy Roman Emperor the pope did not recognize. Ockham settled with Louis at Munich and there composed numerous political treatises against John XXII and his successors. According to his epitaph, Ockham died at Munich on April 10, 1347, probably not (as was once thought) of the Black Death.*

*Works.* After the ground-breaking efforts of Fr. Philotheus Boehner, OFM, the first critical edition of Ockham's philosophical and theological works is now nearing completion under the direction of Fr. Gedeon Gál, OFM, at the Franciscan Institute, St. Bonaventure, New York. Opera Theologica I–IV contains the *Ordinatio* (the prologue and Book I of Ockham's commentary on Peter Lombard's *Sentences*); Opera Theologica V–VIII, the *Reportatio* (Books II–IV of the *Sentence*-commentary) and miscellaneous questions; Opera Theologica IX, *Quodlibeta septem*; Opera Theologica X, *De corpore Christi* (the treatises on quantity); Opera Philosophica I, the *Summa logicae*; Opera Philosophica II, the *Expositio aurea* (*Expositionis in libros artis logicae prooemium* and *Expositio in librum Porphyrii de praedicabilibus*, *Expositio in librum Praedicamentorum Aristotelis*, and *Expositio in librum Perihermenias Aristotelis*) and *Tractatus de praedestinatione et de praescientia Dei respectu futuris contingentibus*; Opera Philosophica III, *Expositio super libros Elenchorum*; Opera Philosophica IV–V, *Expositio in libros Physicorum*; Opera Philosophica VI, the *Summulae in libros Physicorum* and the *Quaestiones in libros Physicorum*; and Opera Philosophica VII, dubious and spurious works.

While the exact chronological order of Ockham's works is not known, partly because many of them were composed during the same short period, the following groupings are clear. (1) *1317–1319*: The earliest of Ockham's writings is the *Reportatio* (Books II–IV of his *Sentence*-commentary), which survives in two incunabula editions—Strasbourg 1483 and Lyons 1495—as

*See Gedeon Gál, "William of Ockham Died 'impenitent' in April, 1347," *Franciscan Studies* N.S. XLII (1982), 90-95. [Actually appeared in 1987.] Thanks to reviewer William Courtenay for emphasizing this point.

well as in the new critical edition. (2) *1321–1323*: The *Expositio aurea* was composed during this time and printed by Marcus de Benevento, Bologna 1496. The *Expositio super libros Elenchorum* was written during the same year as the *Perihermenias*-commentary; so were Books I–IV of the *Expositio in libros Physicorum*. At some point during this period, Ockham revised the first book of his *Sentence*-commentary, the so-called *Ordinatio*, which was printed in the Strasbourg 1483 and the Lyons 1495 editions. (3) *Before 1324:* Ockham composed the *Summa logicae,* his principal work on logic: the *Tractatus de praedestinatione et de praescientia Dei respectu futuris contingentibus*; the two treatises on quantity; the rest of the *Expositio in libros Physicorum* (Books V–VII); and the *Quodlibeta*, which were printed in Paris 1487–1488 and Strasbourg 1491. The authenticity of two shorter works once attributed to Ockham—viz., the *Tractatus logicae minor* and the *Elementarium*—has now been dismissed, and the *Tractatus de successivis* is an abridgement by another hand of parts of Ockham's *Expositio in libros Physicorum*. (4) *After 1324*: The political writings of Ockham constitute a separate corpus and are being edited by the Manchester University press under the title *Guillelmi de Ockham, Opera Politica*; so far, three volumes have been published.

Where possible, I have given page references to the new critical edition: to Opera Theologica I–IX, as well as to Opera Philosophica I–III. A few references to the *Reportatio* are to the Lyons 1495 edition, and question numbers follow the Lyons ordering. The new critical edition will often have a different numbering, but will provide a chart of correspondences. Where Ockham's *Physics*-commentaries are concerned, I have used the Bologna 1494 edition of the *Summulae Physicorum*; the Firenze Naz. Conv. Supp. B.5.726 manuscript of the *Expositio*; and the forthcoming critical text of the *Quaestiones*. Since the pagination of the critical texts is as yet unavailable, I have indicated the forthcoming volume numbers for each, so that readers can locate the relevant critical texts in the future. I have

referred to T. B. Birch's edition (Burlington, Iowa, 1930) of the two treatises on quantity.

# Abbreviations

The following list consists of titles of works by Ockham, Scotus, and Aquinas which, on account of their length and frequent citation, have usually been abbreviated in this book. Complete references for these works are included in the bibliography.

Ockham:

| | |
|---|---|
| *De praedest.*: | *Tractatus de praedestinatione et de praescientia Dei respectu futuris contingentibus*, (OPh II). |
| *De successivis*: | *Tractatus de successivis*, (Boehner ed., 1944). |
| *Expos. Elench.*: | *Expositio super libros Elenchorum Aristotelis*, (OPh III). |
| *Expos. Periherm.*: | *Expositio in librum Perihermenias Aristotelis*, (OPh II). |
| *Expos. Physicorum*: | *Expositio in libros Physicorum*, (OPh IV–V). |
| *Expos. Porphyr.*: | *Expositionis in libros artis logicae prooemium et Expositio in librum Porphyrii de praedicabilibus*, (OPh II). |
| *Expos. Praedicam.*: | *Expositio in librum Praedicamentorum Aristotelis*, (OPh II). |
| *Ord.*: | *Ordinatio*, (OTh I–IV). |
| *Quaest. Physicorum*: | *Quaestiones in libros Physicorum*, (OPh VI). |
| *Quaest. variae*: | *Quaestiones variae in libros Sententiarum*, (OTh VIII). |
| *Quodl.*: | *Quodlibeta septem*, (OTh IX). |
| *Rep.* II–IV: | *Reportatio*, (OTh V–VII). |
| *Summulae Physicorum*: | *Summulae in libros Physicorum*, (OPh VI). |

Scotus:

| | |
|---|---|
| *Opus oxon.*: | *Opus oxoniense*, (Wadding V–X). |
| *Ord.*: | *Ordinatio*, (Vaticana I–VII) and *Lectura in librum primum Sententiarum*, (Vaticana XVI–XVII). |
| *Quaest. miscellaneae*: | *Quaestiones miscellaneae de formalitatibus*, (Wadding III). |
| *Quaest. subtil. Metaphysicorum*: | *Quaestiones subtilissimae super libros Metaphysicorum*, (Wadding IV). |
| *Quodl.*: | *Quodlibeta*, (Wadding XII). |

Aquinas:

| | |
|---|---|
| *In Boethii de trin.*: | *Expositio super librum Boethii De trinitate*, (Decker ed., 1955). |
| *In I–III de anima*: | *In Aristotelis librum De Anima commentarium*, (Marietti, 1959). |
| *In I–XII Metaphys.*: | *In duodecim libros Metaphysicorum Aristotelis expositio*, (Marietti, 1950). |
| *In I–VIII Physic.*: | *In octo libros Physicorum Aristotelis expositio*, (Marietti, 1954). |
| *In I–IV Sent.*: | *Commentum in quattuor libros Sententiarum*, (Parma VI–VII) or *Scriptum super libros Sententiarum Magistri Petri Lombardi*, (Mandonnet and Moos ed., (1929). |

# Part One

## Ontology

# 1

# The Problem of Universals

Ockham's philosophical focus, whether he is doing logic, natural science, or theology, is on the branch of metaphysics commonly called "ontology." His insights and arguments are perennially controversial, although his syllabus was set by medieval reactions to Aristotle: the framework of the ten categories occasioned their discussion not only of the problem of universals (or the ontological status of properties) but also that of quantities, relations, etc.; and the hylomorphism of the *Physics* and *Metaphysics* was further elaborated in debates about the metaphysical structure of material things, the nature of qualitative change, and the ontological status of motion and time. Reserving the latter topics for Part Four below, I shall devote Part One to Ockham's views regarding the first two. In the present chapter, I shall briefly set out the medieval formulation of the problem of universals and sketch "Platonist" (so-called "extreme realist") and "Aristotelian" ("moderate realist") solutions to it. In chapter 2, I turn to Ockham's extensive critique of moderate realism, and in chapters 3 and 4 to his own "nominalist"/"conceptualist" solution, for which he is so notorious.

## 1. THE PROBLEM OF UNIVERSALS

The *locus classicus* for medieval discussions of the problem of universals is Boethius's commentary on Porphyry's *Isagoge*, or introduction to Aristotle's *Categories*. Once in that work (4, 1b25ff), Aristotle distinguishes ten categories: substance, quantity, quality, relation, place, time, being-in-a-position, condition, action, and passion. Porphyry understands these to be

highest genera under which a hierarchy of species are distinguished by means of differentia. And he traces the famous Porphyrian tree under the category of substance, which divides into the species corporeal and incorporeal substance; corporeal substance (or body) into animate and inanimate; animate into plants and animals; animals into rational and irrational; and rational animals into mortal (or man) and immortal.

Aristotle's own remarks suggest at least two ways of arriving at this list. The first is to isolate a set of basic questions that collect distinct and non-overlapping ranges of answers. The suggestion is, for example, that answers appropriate to the question "Where?" are never suitable for the question "When?" and vice versa. A second approach is to examine the various kinds of answers one gets when the question "What is it?" is pressed. For example, if I ask what Socrates is, the first answer may be "a man." If I inquire further what a man is, and so on, the answers will be "a rational animal" and so on until one gets to the last answer, "a substance." Again, if I ask what chartreuse is, the answer may be first "a shade of green," then "a color," but ultimately "a quality."[1] It is at least arguable that Aristotle did not have much invested in this precise list or its length; at any rate, he never defends it or the above mentioned strategies for developing it. And medievals, too, came to challenge some of the later entries.

Given some such distinction among categories, however, the question naturally arises, "categories of what?" Both Porphyry and Boethius take it for granted that Aristotle meant to distinguish categories of *things*.[2] Further, Porphyry understands them to be categories of *predicables* and regarded genera, species, differentia, propria, and accidents as five kinds of predicable things. But Aristotle says that particular individuals are neither in nor said of a subject. Porphyry concludes that particulars are not among the things categorized and

1. See notes to chap. 4. 78–80 in *Aristotle's 'Categories' and 'De Interpretatione'*, (Oxford, 1963), translated with notes and glossary by J. L. Ackrill. Ockham notes this first approach in *Summa logicae* I, c.41, (OPh I, 107).

2. Ackrill joins this interpretation (*op. cit.*, 71–73 and 75–76).

identifies man, not Socrates, as the least species.[3] If so, Porphyry admits it is a puzzle what genera, species etc.—as non-particular predicable things—could be, although not one he is willing to pursue in an elementary textbook. Commenting on Porphyry, Boethius paraphrases,

> ...At present, he says, I shall refuse to say concerning genera and species whether they subsist or whether they are placed in the naked understanding alone; or whether subsisting they are corporeal or incorporeal; and whether they are separated from sensibles or placed in sensibles and in accord with them. Questions of this sort are a most exalted business and require very great diligency of inquiry.[4]

Taking up this challenge, Boethius notes that Porphyry has suggested four different answers to his original question: (i) *Genera, species, etc. are placed in the understanding alone.* Both Porphyry and Boethius take it for granted that we have genus-concepts (e.g., the concept 'animal'), species-concepts (e.g., the concept 'man'), etc. The question is, what extramental things correspond to such concepts? One answer would be that none do. (ii) *They subsist and are corporeal.* Unpopular in the middle ages, this option was taken up by Abelard's teacher Roscelin, whose doctrine that a universal is only a spoken sound (*flatus vocis*) was ridiculed by Anselm and Abelard alike. (iii) *They subsist and are incorporeal and separated from sensibles.* This was held by Plato, for whom the Forms or Ideas subsist independently not only of sensible particulars but also of any and every mind.[5] (iv) *They subsist and are incorporeal and placed in sensibles and in accord with them*, which Boethius considered to be the Aristotelian option.

3. Ackrill thinks Aristotle's first approach does exclude individuals from the things classified, but that the second does not (*ibid.*, 80). Moody notes that Porphyry departs from Aristotle's doctrine in the *Topics*, when he regards species as one of the predicables (*The Logic of William Ockham*, (London, 1935), chap.3, 66–73).

4. *The Second Edition of the Commentaries on the Isagoge of Porphyry*, in vol.1 of *Selections from Medieval Philosophers*, ed. and trans. Richard McKeon, (New York, 1929), sec.10, 91.

5. *Ibid.*, sec.11, 98.

Boethius observes that the distinguishing feature of genera, species, etc. is that they are or can be common to numerically many particulars. But there are several ways in which something can be had in common. (a) We have the room in common in the sense that many particulars may each occupy part of the room at one and the same time. Again (b) there is the case in which "a single thing passes at different times into the use of those having it, so that it is common as a servant or a horse is";[6] (c) "or else it is common to all at one and the same time, not however that it constitutes the substance of those to which it is common, but like some theatre or spectacle, which is common to all who look on."[7] A genus or species is not common in any of these ways, since each can be possessed wholly and completely by numerically many particulars simultaneously in such a way as to constitute the essence of each.[8]

Boethius then presents three aporetic arguments from the fact that genera, species, etc. are common and that none of (i)–(iv) can be accepted in answer to Porphyry's question. (1.1) First, he argues that none can be numerically one. For what is common can exist wholly and completely in numerically many simultaneously, and nothing that can exist wholly and completely in numerically many simultaneously is numerically one itself. Behind the latter premiss lies the assumption

(T1) If $A$ is wholly in $x$ at $t_1$, and $B$ is wholly in $y$ at $t_1$, and $x$ is wholly outside $y$, then $A$ is wholly outside and numerically distinct from $B$.

Where 'in' and 'outside' are understood in senses analogous to their spatial senses (T1) is highly plausible, although not—as we shall see—uncontroverted. (1.2) If a genus or species is not numerically one, existing as it can in numerically many particulars simultaneously, could it not be real by virtue of being numerically many? Boethius thinks this assumption would re-

6. *Ibid.*, sec.10, 94.
7. *Ibid.*
8. *Ibid.*

quire us to assume infinitely many genera where we thought there was only one. For suppose the genus animal is numerically *n* animals. Still, Boethius insists, we shall have to concede that the *n* animals have something in common. But what can this mean? By argument (1.1), not that numerically one animality exists in numerically *n* animals. Rather, Boethius says, that "they have something similar, yet not the same."[9] Yet, it seems that

(T2) if *x* is similar to *y*, there must be something *z* (where *z* is not identical to *x* or to *y*) with respect to which *x* and *y* are similar to each other.

So if $animal_m$ is similar to $animal_n$, there is something—animality—with respect to which they are similar. Yet the latter claim is ambiguous between 'The animality of $animal_m$ is numerically the same as the animality of $animal_n$', which is excluded by (1.1), and 'The animality of $animal_m$ is similar to the animality of $animal_n$'. By (T2), however, if the latter is true, there must be something—call it animality'—with respect to which the animality of $animal_m$ resembles the animality of $animal_n$. By argument (1.1), the animality' of the animality of $animal_m$ cannot be numerically the same as the animality' of the animality of $animal_n$. But if they are merely similar, we shall have to posit another animality" in respect of which they are similar, and so on to infinity. Since a genus or species was supposed to be one over many particulars, Boethius evidently finds absurd the notion that infinitely many genus-things should correspond to each higher branch of Porphyry's tree. The combined result of (1.1) and (1.2) is that, since every extramental thing is either numerically one or numerically many, genus or species is not an extramental thing, and answers (ii)–(iv) to Porphyry's original question are mistaken.

(1.3) Boethius then turns to argue that the first answer (i) is unacceptable as well. For every idea or concept is, necessarily, an idea or concept *of* something; and every idea or concept

9. *Ibid.*, sec. 10, 93.

represents its object either exactly as it is in reality or not exactly. Not the first by (1.1) and (1.2). Boethius maintains, however, that

(T3) if an idea or concept fails to represent its object exactly as it is in reality, it is vain and false,

apparently in the sense that nothing falls under or satisfies that concept. If there are no extramental genus-things or species-things, our genus-concepts and species-concepts will not represent extramental things exactly as they are and will thus be "vain and false." This consequence seems the more pernicious when viewed against the common assumption of Plato and Aristotle that having such genus- and species-concepts is our means of having knowledge properly speaking. For they hold that knowledge properly speaking and definition are of what is universal and real; if nothing real is universal, scepticism is the result.

## 2. AN "ARISTOTELIAN" SOLUTION

Since Boethius is dealing with a commentary on Aristotle's *Categories*, he finds it appropriate to follow "out the opinion of Aristotle very diligently" by showing how an Aristotelian, Alexander of Aphrodisias would solve the problem of universals formulated in arguments (1.1)–(1.3). (His is only one "Aristotelian" answer; we shall examine others in detail in chapter 2 below.) Boethius thinks that Alexander would object to all three arguments. Most obviously defective is (1.3), resting as it does on the simple-minded principle of representation in (T3). Alexander distinguishes two ways in which an idea or concept can fail to represent things exactly as they are. One is by composition—i.e., by conceiving together properties that do not exist together in reality, as in our idea of a golden mountain or a round square. Another is by division or abstraction—i.e., by conceiving separately or in isolation properties that could not exist separately in reality. Ideas or concepts of the first sort are

vain and false, in that nothing real falls under them, but abstract ideas or concepts need not be empty. And Alexander explains that our genus-concepts and species-concepts are formed by abstraction and division. Thus, Boethius reports his view that

> ...Since genera and species are thought, therefore their likeness is gathered from the individuals in which they are, as the likeness of humanity is gathered from individual men unlike each other, which likeness conceived by the mind and perceived truly is made the species; again when the likeness of these diverse species is considered, which cannot be except in the species themselves or in the individuals of the species, it forms the genus...[10]

By division and abstraction, the mind singles out those features which provide the basis for the similarity between Socrates and Plato. And even though these features cannot, on the Aristotelian view, exist all by themselves in reality but only in conjunction with others, this abstract likeness is enough for Socrates and Plato to fall under the concept.

Alexander's alternative to (T3) is further clarified by his replies to (1.1) and (1.2). The latter arguments combine the thesis (T2) that resemblance must be grounded in identity with the assumption that the same thing cannot be both numerically one and numerically many. But this overlooks the fact that something may have a double mode of existence, in the intellect as an object of thought and in reality in particulars. According to Boethius, Alexander holds that

> genera and species *are in individuals*, but they are *thought universals*; and species must be considered to be nothing other than the thought collected from the substantial likeness of individuals unlike in number, and genus the thought collected from the likeness of species. But this likeness when it is in individual things is made sensible, when it is in universals it is made intelligible; and in the same way when it is sensible it remains in individuals, when it is understood, it is made universal. Therefore, they subsist in sensibles, but they are understood without bodies...[11]

Just as the same line can be both concave and convex, so the

10. *Ibid.*, sec. 11, 97.

11. *Ibid.*, (italics mine).

same subject—the genus or species—can be both particular and numerically multiplied and universal.

> ...So too for genera and species, that is, for singularity and universality, there is only one subject, but it is universal in one manner when it is thought, and singular in another when it is perceived in those things in which it has its being.[12]

Alexander would thus replace (T3) with

(T4) the genus or species existing in thought represents all those particulars in which it really exists.

(T1) is acceptable, and it can be admitted that genus or species is not numerically one but numerically many insofar as it exists in reality in numerically many particulars. But (T2) can also be granted, because the respect in which Socrates and Plato or Socrates and Brownie the donkey resemble each other—i.e., the species man or the genus animal—is one and universal when it is thought, and the pernicious run to infinity is therewith halted.

## 3. A "PLATONIST" SOLUTION

Although Boethius thinks that Alexander's approach would resolve the difficulty well enough for an Aristotelian (a conclusion with which Ockham will disagree; see chapter 2 below), he does not himself accept this solution because he is a Neoplatonist. He thought that for Plato a genus or species is something incorporeal that exists independently of human minds and of sensible particulars. It is universal, not particular in reality; nevertheless, it is individual and numerically one in reality as well. In defense of his position, a Platonist would first attack the argument in (1.1), which assumes that a genus or species is in its particulars in a way analogous to the spatial 'in', by (T1). A Platonist will refuse to think of humanity existing in Socrates on the model of a peanut existing in a jar and will say

12. *Ibid.*, 98.

instead that Socrates and Plato are both men because they both participate in the Form Man. And while the notion of participation is notoriously obscure, it was at least partially cashed by Plato and his successors in terms of an imperfect resemblance between the spatio-particulars and the Form. The contention is that there is no more problem in numerically many particulars imperfectly resembling one and the same really existing Form than in numerically many people watching one and the same spectacle in a theater. To the extent that a Platonist analyses participation in terms of resemblance, however, he will avoid positing an infinite progression of genera and species only if he also rejects (T2), the assumption undergirding (1.2). For according to the Self-Predication assumption, the Form of $F$ is $F$. Thus, if Socrates resembles the Form Man, by (T2), they resemble each other in something, viz., man. But, by (T2), not the man that is Socrates or the man that is the Form Man. Therefore, with respect to some third man, and so on to infinity. Conceding some intuitive appeal to (T2), a Platonist might plausibly replace it with

(T5) where $x$ and $y$ are spatiotemporal particulars, if $x$ is similar to $y$, there must be some property $F$-ness or Form of $F$ in which $x$ and $y$ both participate,

but insist that the Form Man resembles Socrates through itself.

## 4. NOMINALIST/CONCEPTUALIST SOLUTIONS

Besides Roscelin, Abelard and Ockham defended the first answer to Porphyry's question—viz., (i) that genera and species exist in the understanding alone and cannot be found in or identified with any extramental things other than conventional names. Abelard says that the universal man is the spoken word 'man' taken together with its signification, the concept 'man', whereas Ockham maintains that the species man is primarily to be identified with the concept 'man' itself and secondarily with the spoken or written word (see chapter 3 below). These

nominalist/conceptualists joined moderate realists in rejecting (T3) and analysing the representation of abstract ideas or concepts in terms of similarity. Nevertheless, Abelard and Ockham part company with moderate realists who try to sustain (T2) with the thesis that genera and species exist not only in thought as universal but also as numerically multiplied in extramental particulars. Rather Abelard and Ockham outdistance the Platonists in rejecting both (T2) and (T5) and insisting that similarity is a primitive, two term relation that is not to be further analysed in terms of identity (see chapter 4 below).

The heart of the medieval problem of universals is thus found in the twin issues of whether similarity must be grounded in identity as in (T2) or (T5), and whether universal concepts supply us with any knowledge of reality. Now that we have previewed the principal solutions, we are ready for a detailed look at Ockham's defense of the nominalist/conceptualist answer.

# 2

# Universals Are Not Things Other Than Names

Ockham regarded the view that universals are real things other than names as "the worst error of philosophy,"[1] not primarily on grounds of ontological parsimony, but because he found it contradictory. Aristotle had convinced most thirteenth and fourteenth century philosophers that Platonism was unreasonable, because "no one in his right mind" would hold that the natures of particulars exist in separation from them the way Platonic ideas do.[2] Ockham therefore concentrates his fire on moderate realism, the virtually unanimous opinion of his contemporaries:

> ...everyone I know of agrees in maintaining that the nature, which is somehow universal—at least potentially and incompletely—really exists in the individual...[3]

Ockham examines no fewer than six versions of it, including those of his most eminent predecessors, Thomas Aquinas and Duns Scotus.

## 1. MODERATE REALISM AND INDIVIDUATION

In maintaining that genera and species really existed in particulars, moderate realists were affirming that genera or species are metaphysical constituents of particulars. Since they also in-

1. *Expos. Periherm.* I, Prooemium, (OPh II, 363).
2. *Ord.* I, d.2, q.4, (OTh II, 117).
3. *Ibid.*, q.7, (OTh II, 226).

sisted that genera and species were common to numerically distinct particulars, they could not say that genera or species were the only metaphysical constituents of particulars. For if human nature were the only metaphysical constitutent of any particular man, it would seem that there could not be more than one man. And if human nature is a constituent in each of Socrates and Plato, so that they have a constituent in common, then, since they are numerically distinct men, they each must have a constituent that is not common to the other and that makes them distinct from each other. Most moderate realists[4] thus concluded that particulars were composites of a nature that is somehow common to numerically distinct particulars and individuating principles that were distinct in numerically distinct particulars.

Just what the individuating principles were, was a matter of considerable dispute. Abelard's teacher, William of Champeaux, seems to have held for a time that what individuates particulars of the same species from one another is that they have different accidents.[5] What makes Socrates different from Plato is in part that one has a different height, weight, hair color, and shape of nose from the other. Abelard released a battery of five arguments against this opinion, one of which was based on Aristotle's dictum that accidents cannot be naturally prior to substance. Generally speaking, if $x$ is naturally prior to $y$, then $y$ depends on $x$ for its existence and not vice versa. Aristotle wanted to say that accidents depend for their existence on the existence of substance and not vice versa. But if accidents were what made Socrates a numerically distinct particular from Plato, then Socrates would depend on these accidents to be Socrates and hence would depend on them for *his* existence. Thus, if the individuating principles were accidents, accidents would be naturally prior to substance—which is the opposite of what

4. It is not so clear, as we shall see, that the last view examined below—that of Henry of Harclay—fits this pattern. But it is also not obvious that he belongs with the moderate realists any more than Ockham does.

5. See selections from *The Glosses of Peter Abailard on Porphyry*, in vol. 1 of *Selections from Medieval Philosophers*, ed. and trans. Richard McKeon, (New York, 1929), 222–24.

Aristotle claimed. This argument enjoyed a widespread acceptance in the thirteenth and fourteenth centuries as a refutation of the view that the individuating principles are accidents.

As we shall see in more detail later (see Part Four, chapter 16 below), Aquinas thinks that matter is what individuates. Not prime matter, however. According to Aquinas, prime matter is neither a substantial nor an accidental property but is pure potentiality that has no actuality of its own. As such, he reasons, it is just as indeterminate and determinable as the nature is and so could not serve by itself to individuate the species. Quantity, as an accidental property, could not serve by itself either, for the reason just given in the preceding paragraph.[6] Aquinas concludes that the individuating principles are matter signed by quantity—i.e., matter taken together with quantitative dimensions.[7]

Scotus rejects Aquinas's position on the ground that it is tantamount to saying that accidents individuate.[8] Further, Scotus held that only what is distinct and determinate in and of itself can individuate, insisting that

> ...no matter what common things are simultaneously conjoined, it is never contrary to the whole aggregate of itself that it should exist in something other than that in which it exists...[9]

And he concludes that neither matter by itself, existence, or any combination of accidents can individuate.[10] On the other hand, Scotus argues that the individuating principles must be something positive. For a particular has a more perfect unity (numerical unity) than a nature has (specific unity). Hence, what gives it that unity must have an actuality of its own. Scotus concludes that what individuates or "thisness" (*haecceitas*) is some positive principle that has an actuality of its own and that

6. *Summa theologiae* I, q.76, a.6, ad 2.
7. *Ibid.*, q.75, a.4 and 7; *De ente et essentia*, c.2.
8. *Ord.* II, d.3, q.4, n.111, (Vaticana VII, 446).
9. *Quaest. subtil. Metaphysicorum* VII, q.13, (Wadding IV, 417–18).
10. *Ord.* II, d.3, q.5, 3, and 4, respectively.

does not fall—except by reduction—under any of the ten categories.[11]

What is important for present purposes, however, is that moderate realists conceive of particulars as having at least two metaphysical constituents: a common species or nature and individuating principles.

## 2. REAL DISTINCTION, DISTINCTION OF REASON, AND FORMAL DISTINCTION

Whether or not it is possible for natures that are in any way universal to exist in particulars, however, depends entirely on how the connection between them and the individuating principles is explained. Of the versions of moderate realism examined by Ockham, the first two say that the nature and individuating principles are really distinct; the third, that of Duns Scotus, that they are formally distinct; and the last three, that there is a distinction of reason between them, although they are really the same. Thus, before proceeding any further, it is necessary to see how these different types of distinction were understood.

(2.1) *Real Distinction.* Most straightforward among them is real distinction, which, properly speaking, is a distinction among real things (*res*).[12] Ockham, in effect, takes the Indiscernibility of Identicals—i.e., the principle that for every individual $x$ and $y$ and every property $F$, if $x$ is identical with $y$, then $x$ is $F$ if and only if $y$ is $F$—to be a necessary truth about and our primary criterion of distinction for real things. Thus, he says that contradiction is "the most powerful way" of proving a distinction among real things,[13] and insists that if we allow one

11. *Ibid.*, q.6, n.169–170, (Vaticana VII, 474–75).

12. Ockham twice recognizes a loose sense of 'really distinct' according to which those that are formally distinct are said to be really distinct, because they are distinct prior to any activity of the intellect (*Ord.* I, d.2, q.11, (OTh II, 370); *Quodl.* I, q.2, (OTh IX, 12)). For Ockham's understanding of 'formally distinct', see Part Five, chapter 22 below.

13. *Ord.* I, d.2, q.11, (OTh II, 374).

and the same real thing to have contradictory properties simultaneously, "every method of proving distinction or nonidentity between any entity whatever would perish."[14] Further, Ockham seems to assume that nothing is contingently really the same as or contingently really distinct from a given real thing. Rather if $x$ is really the same as $y$, $x$ is necessarily identical with $y$; and if really distinct, necessarily really distinct (where proper names, demonstratives, or rigid designators are substituted for '$x$' and '$y$'). Thus, Ockham implies that if $x$ and $y$ are really the same, it is not logically possible that $x$ should exist without $y$ or vice versa, even by divine power.[15]

Paradigm cases of really distinct things are distinct substances such as Socrates and Plato. But Scotus and Ockham will maintain that Socrates' matter is really distinct from Socrates' form, and Ockham will argue that Socrates' sensory soul is really distinct from his intellectual soul (see Part Four, chapter 15 below). And most of their contemporaries would contend that his qualitites are really distinct from his substance (see Part One, chapter 8 below). It is widely assumed that real distinction went together with separability or the logical possibility that at least one of the pair of really distinct things should exist without the other. Ockham often makes use of the principle that

(A) ...Every real thing (*res*) that is prior to another real thing really distinct from it can exist without it...[16]

It follows from (A), together with the Aristotelian claim that substance is naturally prior to accidents, that a substance can exist without any accident that is really distinct from it. Ockham's contemporaries generally believed that Aristotle would not have granted the converse—that a particular accident can exist without the substance in which it inheres. But the doctrine of transubstantiation seemed to require that particular accidents

14. *Ibid.*, q.1, (OTh II, 16).
15. *Ibid.*, q.6, (OTh II, 193).
16. *Ibid.*, q.4, (OTh II, 115); cf. q.6, (OTh II, 193) and *Treatise on Quantity* I, q.3, (Birch ed., 96–98).

can exist without inhering in any substance at all and do so miraculously in the sacrament of Holy Communion or the Eucharist (see Part One, chapter 6 below). Thus, in at least some cases, the naturally posterior of really distinct things can exist without the naturally prior.

There is reason to think that Ockham would not endorse the following general principle, however:

(B) If $x$ and $y$ are really distinct and neither is a part of the other, it is logically possible that $x$ should exist without $y$ and logically possible that $y$ should exist without $x$.

For he explicitly asserts in *Reportatio* IV, q.14, (OTh VII, 324), that God is really distinct from a created real thing. Yet, he adheres to dogma in affirming that "a creature cannot exist when God does not exist"[17] and that "it is a contradiction for a man to exist and not God."[18] Indeed, Ockham thinks that God exists necessarily and so could not fail to exist, whether anything else exists or not.[19] Remarks throughout his works would, however, suggest his assent to an analogous general principle restricted to creatures:

(C) If $x$ and $y$ are really distinct created real things, neither of which is part of the other, then it is logically possible that $x$ should exist without $y$ and logically possible that $y$ should exist without $x$.

The above mentioned assertion—viz., that for each accident really distinct from substance, it is logically possible that the substance should exist without the accident—does not seem to entail that a substance can exist without having any accidents at all. Yet, Ockham does maintain that

(D) When a real thing (*res*) is really distinct from other real things and can exist without each of them taken one by

17. *Ord.* I, d.27, q.3, (OTh IV, 242).
18. *Ibid.*, d.30, q.1, (OTh IV, 307).
19. *Ibid.*, d.8, q.7, (OTh III, 259–260).

> one, it can exist without any and all of them taken together,[20]

in attacking the view that universals are real, and (D) is used by Walter Chatton as a weapon against Ockham's own position (see Part One, chapter 3 below). And Ockham does explicitly use (D) to argue that "substance can exist without any quantity."[21]

(2.2) *Distinction of Reason*. Whereas a real distinction between things involves the logical possibility of separate existence in reality, a distinction of reason between beings involves mere separability by a thinking mind. Thus, it was held that there is a distinction of reason between $x$ and $y$, if and only if $x$ and $y$ are thought of by means of distinct concepts.

A number of Ockham's predecessors found this distinction especially fruitful for solving philosophical and theological problems. For often there is a strong motive for asserting that $x$ and $y$ are not really distinct but are the same real thing (*res*) and at the same time for saying that $x$ and $y$ are somehow distinct. For example, the doctrine of divine simplicity forbids the claim that divine wisdom and divine goodness, or the divine essence and the divine persons are distinct real things. Nevertheless, the former have different definitions and the latter have contradictory properties (e.g., the Son is begotten, but neither the divine essence nor the Father is begotten). Thus, Aquinas says in each case that they are really the same, but there is a distinction of reason between them (see Part Five, chapter 21 below). Similarly, adherents of the last three versions of moderate realism find reason to say that the nature and individuating principles in a particular thing are really the same, but there is a distinction of reason between them.

Ockham recognizes that there are distinctions of reason as well as real distinctions among beings. But he thinks that, literally construed, claims of the form '$x$ is really the same as $y$, but there is a distinction of reason between $x$ and $y$' are fundamen-

20. *Ibid.*, d.2, q.4, (OTh II, 15).
21. *Rep.* IV, q.9, (OTh VII, 159).

tally confused, because they violate what Ockham regards as a fundamental principle about identity and distinction:

> (E) ...being the same or distinct are properties (*passiones*) that immediately pertain to that to which they pertain. Consequently, they pertain to it, everything else left aside.[22]

Ockham acknowledges that there are many features a thing may have through the agency of something extrinsic to it, and some (e.g., the property of being understood or thought of) that it can have through the activity of the intellect. But identity and distinction are not among such features.[23] Thus, he charges, it is absurd to suppose that Socrates is made really the same as Socrates and really distinct from Brownie through Plato.[24] A fortiori, Socrates is not made the same as or distinct from anything else by an activity of the intellect.[25] Likewise, divine goodness and divine wisdom are not changed in any way by virtue of being understood. If they were in no way distinct prior to the activity of the intellect, they were in no way distinct after it either.[26]

Again, philosophers who make such claims start with an ontology that includes only real things (*res*), which exist, or at least can exist, in reality, and conceived objects or concepts, which have a non-real mode of existence as objects of thought. In more Aristotelian terminology, "the first division of being is into real beings and beings of reason," just as the first division of substance is into corporeal and incorporeal.[27] Thus, "a real being and a being of reason are more distinct than two real beings..."[28] Thus, if, strictly speaking, identity and distinction of reason apply to beings of reason only, and real identity and

22. *Ord.* I, d.2, q.7, (OTh II, 229).
23. *Ibid.*, q.2, (OTh II, 63–64).
24. *Ibid.*, q.6, (OTh II, 184).
25. *Ibid.*, q.2, (OTh II, 63).
26. *Ibid.*, (OTh II, 56).
27. *Ibid.*, (OTh II, 54).
28. *Ibid.*, (OTh II, 75).

distinction to real things (*res*) only, then "no being of reason is really the same as or distinct from any being of reason" and "nothing real is the same as or distinct in reason from anything real..."[29] It is, in effect, a category mistake to say that divine wisdom and divine goodness are really the same, but there is a distinction of reason between them. For if divine wisdom and divine goodness are really the same, then they are a real thing and so not the kind of being that can be the same as or distinct in reason from another. But if there is a distinction of reason between divine wisdom and divine goodness, then they are beings of reason and so not the kind of beings that can be really the same. Similarly, for other statements of this form.

As we shall see in the next chapter, Ockham was initially inclined to accept an ontology that includes only real things (*res*) and beings of reason. And leaving aside until later (see Part Five, chapter 22 below) the relation of the divine persons to the divine essence, Ockham thinks that there are only four ways in which one being can be distinct from another:[30] (i) as one real being from another, in which case there is a real distinction; (ii) as one being of reason from another, in which case there is a distinction of reason; (iii) as a real being from a being of reason, in which case the distinction is strictly neither a distinction of reason nor a real distinction, but an intermediate distinction,[31] although in a broad sense it may be called a distinction of reason;[32] or (iv) as an aggregate of a real thing and a being of reason from a real thing or from a being of reason or from another aggregate, in which case there is neither a distinction of reason nor a real distinction.

When Ockham gave up the notion that some beings have a non-real mode of existence, he came to hold that "to be distinct in reason is only to have different descriptions,"[33] and therefore that a distinction of reason obtains "only between

29. *Ibid.*, (OTh II, 65).
30. *Ibid.*, q.3, (OTh II, 78).
31. Cf. *ibid.*, q.11, (OTh II, 370).
32. *Ibid.*, q.2, (OTh II, 65).
33. *Quodl.* III, q.2, (OTh IX, 209); cf. *Summa logicae* III–4, c.7, (OPh I, 784).

names, since definitions are only of names."[34] And, since all beings are really existent in Ockham's later theory (see Part One, chapter 3 below), all names are real beings and there can be a distinction of reason between names that are really distinct.[35] He does not say whether an ambiguous name such as 'bank' is really the same but distinct in reason from itself by virtue of its different definitions.

Thus, Ockham suggests that when the authorities contain statements of the form '*x* and *y* are really the same, but there is a distinction of reason between *x* and *y*', what they really mean to assert is that one and the same real thing is genuinely signified by or falls under both.

(2.3) *Formal Distinction*. Scotus found it impossible to deal with philosophical and theological problems without resorting to formal nonidentity or distinction, as contrasted with the real distinction that obtains between real things (*res*) and the distinction of reason that depends on the intellect's activity of conceiving. Scotus's works contain at least two importantly different accounts of this alternative sort of nonidentity or distinction, however.[36]

(2.3.1) According to the first and earlier version, there often is, within what is really one and the same thing (*res*), a plurality of entities or property-bearers whose nonidentity or distinction in no way depends upon the activity of any intellect, created or divine. Scotus found a double motive for adopting this supposition. (a) The first is epistemological: Like Ockham, Scotus thought that if in reality, prior to every act of the intellect, *x* and *y* are in every way the same, the intellect could not make *x* and *y* in any way distinct. But contrary to Ockham's whole

34. *Quodl.* I, q.3, (OTh IX, 20).

35. *Ibid.*, III, q.2, (OTh IX, 209–210).

36. Some order has been introduced into a confusing textual picture by Hester Goodenough Gelber, in her excellent discussion *Logic and the Trinity: A Clash of Values in Scholastic Thought, 1300–1335*, (Ph.D. dissertation, University of Wisconsin, 1974). For some reactions to her interpretation, and to that of D. P. Henry in "Ockham and the Formal Distinction," *Franciscan Studies* N.S. XXV (1965): 285–292, see my article "Ockham on Identity and Distinction," *Franciscan Studies* N.S. XXXVI (1976): 5–74.

philosophy, Scotus insists that distinctions in conceived objects must be mirrored by distinctions within real things, if the real things are to fall under distinct concepts simultaneously. Take the claim that whereas the genus and differentia of a given species are in no way distinct in reality, they are correctly conceived of by distinct concepts. Scotus reasons that when the intellect conceives of genus and differentia, respectively, either it has something of the thing (*res*) that is the species as its object or not. If the latter, then it seems that the concepts of genus and differentia are not of anything real and so are entirely fictitious. On the other hand, if in conceiving of genus and differentia, the intellect does have something of the thing (*res*) that is the species as its object, then, since there are no distinctions at all in that thing (*res*), these concepts must have altogether the same content—in which case they will not be distinct concepts after all. Nor will it do any good to say—as Henry of Ghent does[37]—that the conceived objects can be distinct, even though prior to every act of intellect there is no actual distinction between them in reality, because that thing is apt to cause distinct concepts in the intellect. For it is one thing to be the cause of these conceptions and another to be the object of the intellect when it conceives them.[38] Thus, Scotus does not see how those distinct concepts can genuinely signify the real thing (*res*) unless there is some nonidentity or distinction in the thing (*res*) corresponding to the distinction in conceived objects. Since there are cases in which prior to every act of intellect, what is really one and the same thing (*res*) is apt to fall under or be genuinely signified by distinct concepts, Scotus concludes that prior to every act of intellect, there must be some sort of nonidentity or distinction among entities within the real thing.

(b) Scotus's other motive is logical or metaphysical. He, too, was sensitive to the fact that often in philosophy or theology there is reason to deny that $x$ and $y$ are really distinct things (*res*) and yet apparent cause to affirm that $x$ is $F$ and $y$ is not $F$. But

37. *Summae quaestionum ordinariarum*, A.27, q.1, (Paris, 1520, T.1, fol.162r O).

38. *Quaest. subtil. Metaphysicorum* VII, q.19, n.5 (Wadding IV, 727).

the Indiscernibility of Identicals, which unquestionably applies to everything that exists in reality, implies that nothing real that is in every way the same can be both *F* and not *F*. If it were possible to distinguish within what is really one and the same thing (*res*) nonidentical or distinct property-bearers, the way might seem open for a solution to such problems.

Scotus variously labels the nonidentical entities within what is really one and the same thing (*res*) "realities" (*realitates*), "formalities" (*formalitates*), "aspects" (*rationes*), "formal aspects" (*rationes formales*), "intensions" (*intentiones*) or "real aspects" (*rationes reales*). Similarly, because he says that such entities are formally distinct, different, diverse, or not the same, the relation between such entities is best known as formal nonidentity or distinction.

How can we tell when there is such a plurality of entities within the same thing (*res*)? Scotus's criterion of formal nonidentity or distinction is best inferred from what he says about formal identity. First, for Scotus, "formal unity follows real unity"[39] and so restricts the relations of formal identity and distinction to entities that are or are in what is really one and the same thing (*res*). Further, he explains that "those are formally the same which are so related that one falls under the definition of the other" or would so fall if they were definable in the strict Aristotelian sense in terms of genus and differentia.[40] Since man, by definition, is rational animal, it follows that rational animal is formally the same as man. Sometimes, he allows that rational is also formally the same as man, but other times he prefers to speak of rational's being formally included in man.[41] Given this understanding of what it is for *x* and *y* to be formally the same, we can infer a corresponding criterion of formal nonidentity or distinction:

(F) *x* and *y* are formally nonidentical or distinct, if and only if (a) *x* and *y* are or are in what is really one thing (*res*); and

39. *Lectura* I, d.2, p.2, q.1–4, n.275, (Vaticana XVI, 216).
40. *Ibid.*; *Ord.* I, d.2, p.2, q.1–4, n.403, (Vaticana II, 356–57).
41. *Ibid.*, d.8, p.1, q.4, n.193, (Vaticana IV, 261—62).

(b) if $x$ and $y$ are capable of definition, the definition of $x$ does not include $y$ and the definition of $y$ does not include $x$; and (c) if $x$ and $y$ are not capable of definition, then if they were capable of definition, the definition of $x$ would not include $y$ and the definition of $y$ would not include $x$.

Does the existence of a plurality of formalities within what is really one and the same thing (*res*) render that thing composite? Not necessarily, according to Scotus. For he maintains that a thing is composite in the strict sense, only if it contains two things (*res*), one of which is in potentiality with respect to the other. For example, Socrates is a composite substance in the strict sense, because he is made up of more than one thing—matter and a plurality of substantial forms; body and soul—the former of which is in each case in potentiality with respect to the latter.[42] Alternatively, Scotus recognizes that a thing (*res*) might be seen to be composite in a less proper sense if it contains realities or formalities one of which is in potentiality with respect to the other. For example, he maintains that "the reality from which the specific difference is taken is in potentiality with respect to the reality from which the individual difference is taken..." And where genus and differentia are formally but not really distinct, the reality from which the genus is taken is nevertheless in potentiality with respect to the reality from which the specific difference is taken.[43] In these cases, the formally distinct entities are not the same "by identity" but are only "the same thing,"[44] analogous to the way distinct parts are not the same as one another but only the same whole. On the other hand, Scotus maintains that an infinite entity is (i) the same as any entity that is compossible with it and (ii) in poten-

42. *Ibid.* II, d.3, p.1, q.5–6, n.189–190, (Vaticana VII, 484–85); *Lectura* I, d.8, p.1, q.3, n.102–103, (Vaticana XVII, 34–35).

43. *Ibid.*, (Vaticana XVII, 34–35); n.118, (Vaticana XVII, 41); q.4, n.189, (Vaticana XVII, 68–69); cf. *Ord.* I, d.8, p.1, q.3, n.106–107, (Vaticana IV, 201–202).

44. *Lectura* I, d.8, p.1, q.3, n.103, (Vaticana XVII, 35); q.4, n.189, (Vaticana XVII, 68–69).

tiality with respect to none. He concludes that where one or more formally distinct entities are infinite, they do not form a composite of any sort. Thus, while infinite goodness and infinite wisdom are not formally the same in God,[45] their existence in the divine essence does not make for any composition there, because each perfection is infinite.[46] And speaking of simple things that contain a plurality of formalities, he says that the latter are the same "by identity" or "really the same" or "the same thing,"[47] and not merely that they are *in* what is really one and the same thing (*res*).[48]

(2.3.2) Despite such reassurances from Scotus, his opponents at Paris apparently remained unconvinced that assuming a plurality of formalities or property-bearers in God was compatible with divine simplicity. Perhaps this is why Scotus adopted a different stance in the *Reportata Parisiensia* IA, d.33, q.2–3 and d.34, q.1, and in his *Logica*.[49] In these works, he continues to insist on the recognition of some distinction in reality (*ex natura rei*) and prior to every act of any intellect, but alternative to the real distinction between one thing (*res*) and another. Yet, he now denies that this involves distinguishing a plurality of entities or property-bearers within what is really one and the same thing (*res*).

Scotus elaborates this idea by contrasting absolute distinction (*distinctio simpliciter*) with distinction *secundum quid*. According to him,

(G) $x$ is absolutely distinct from $y$, if and only if (a) each of $x$ and $y$ is fully actual rather than having some sort of

45. *Ibid.*, q.4, n.175, (Vaticana XVII, 63); cf. *Ord.* I, d.8, p.1, q.4, n.193, (Vaticana IV, 261–62).

46. *Lectura* I, d.8, p.1, q.4, n.186, (Vaticana XVII, 69); cf. *Ord.* I, d.8, p.1, q.4, n.213, (Vaticana IV, 271); n.215, (Vaticana IV, 272–73); n.220, (Vaticana IV, 275); and II, d.3, p.1, q.5–6, n.190, (Vaticana VII, 484–85).

47. *Lectura* I, d.8, p.1, q.3, n.189, (Vaticana XVII, 69); d.33–34, q.u, n.4, (Vaticana XVII, 443); d.2, p.2, q.1–4, n.274–75, (Vaticana XVI, 216–17); *Ord.* I, d.8, p.1, q.4, n.217, (Vaticana IV, 274); *Lectura* I, d.2, p.2, q.1–4, n.272, (Vaticana XVI, 215).

48. *Ord.* I, d.2, p.2, q.1–4, n.406, (Vaticana II, 357).

49. Cf. Gelber, *op. cit.*, 80ff.

> diminished being; (b) each of $x$ and $y$ has formal as opposed to merely virtual existence; (c) each of $x$ and $y$ has its own distinct existence and not confused or mixed existence; and (d) $x$ is absolutely nonidentical with $y$.[50]

(a)–(c) of (G) concern the ontological status of the relata; (d), the relation of nonidentity between them. Really distinct things (*res*) satisfy all four conditions.[51] Thus, there is an absolute distinction between Socrates and Brownie the donkey, among Socrates' matter and his substantial forms, etc. On the other hand, a distinction between $x$ and $y$ may fail to be absolute on one of two counts: the ontological status of a relatum or the relata may fall short of that prescribed in (a)–(c) of (G); or the relation of nonidentity between the relata may be diminished in some way.[52] Thus, unproduced effects that exist only virtually in their causes cannot be absolutely distinct (by condition (b)); neither can the elements—earth, air, fire, and water—in "chemical" compounds of the same (by condition (c)). Likewise, forms that exist only potentially in matter and beings of reason that have only the diminished mode of existence in the intellect cannot be absolutely distinct from anything (by condition (a)).

Scotus makes clear that really distinct things (*res*) and distinct beings of reason alike satisfy condition (d) of (G). Thus, what makes real distinction an absolute distinction and distinction of reason not, is entirely a difference in the ontological status of their respective relata. Like Ockham, Scotus affirms that the relation of nonidentity is the same in the two cases.[53] Whereas Scotus's first account of formal distinction suggested that the same relation of absolute nonidentity is found between a third sort of entities, viz., formalities, his second account rejects such analogies and proposes instead that $x$ and $y$ are relatively

50. *Reportata Parisiensia* IA, d.33, q.2, n.9, (MS. Vat. Borg. 325, fol.83ra). This manuscript is described in Scotus, *Opera Omnia*, (Vaticana I, 145*).

51. *Quaest. miscellaneae*, q.1, n.12, (Wadding III, 444).

52. *Reportata Parisiensia* IA, d.33, q.2, fol.82vb–83ra.

53. *Quaest. miscellaneae*, q.1, n.12, (Wadding III, 444).

distinct when each satisfies conditions (a)–(c) of (G), but jointly fail to satisfy condition (d) of (G). Thus, if $x$ and $y$ are distinct *secundum quid*, it is not their being, but their mode of nonidentity that is diminished or reduced.[54]

Scotus informs us that nonidentity *secundum quid* is twofold: (i) lack of formal identity, and (ii) lack of adequate identity. (F) remains his criterion of formal nonidentity.[55] But whereas on his first account, (F) seemed to serve as a criterion for when to admit a plurality of property-bearers within a single thing (*res*), the second account explicitly rejects such implications. In his *Logica*, Scotus maintains that '*A* is not formally *B* ' or '*A* is not formally the same as *B* ' no more entails '*A* is not *B* ' than 'An Ethiopian is not a white man' entails 'An Ethiopian is not a man'. The reason is that both 'formally' and 'identity' fall within the scope of the negation, so that it is only a certain mode of identity, not absolute identity, that is denied. Further, '*A* is not formally *B* ' or '*A* is not formally the same as *B* ' entails '*A* is formally distinct from *B* ' only where the negation implicit in 'distinct' is understood as negating 'formally' and not 'identity' alone. Finally, 'Formality *A* is distinct from formality *B* ' or 'Formality *A* and formality *B* are two distinct formalities' follow from the above mentioned propositions, only if they are taken in such a way that the mode of distinction is diminished or the mode implicit in 'formality' is denied by the negation implicit in 'distinct'; but not where they are taken to imply that two formalities are absolutely distinct.[56]

Scotus says that $x$ is not adequately identical with $y$ when one of them exceeds the other or vice versa, either according to predication or according to perfection. Thus, animal is not adequately identical with man, because the former is predicated of more things than the latter is, while the latter is more perfect than the former is (presumably because the genus is in potentiality with respect to the specific difference, but species is not; and actuality is more perfect than potentiality).[57]

54. *Reportata Parisiensia* IA, d.33, q.2, fol.83ra.
55. *Ibid.*
56. *Quaest. miscellaneae*, q.1, n.1–11, (Wadding III, 441–44).
57. *Reportata Parisiensia* IA, d.33, q.2, fol.83ra.

Scotus concludes that the Indiscernibility of Identicals does not necessarily hold where $x$ and $y$ are really the same but lacking in formal identity, and that the Transitivity and Symmetry of Identity do not necessarily apply where $x$ and $y$ are really, but not adequately the same.[58]

With these preliminaries in mind, let us turn to Ockham's critique of moderate realism. Ockham obviously views Scotus as his principal adversary: for he takes the trouble to argue against two misinterpretations of Scotus, before trying to refute Scotus's own position. His consideration of theories according to which there is a distinction of reason between the universal and particulars is much more abbreviated. We shall consider each in turn.

## 3. THE FIRST VERSION OF MODERATE REALISM

The most promising version of moderate realism considered by Ockham was in fact championed by his contemporary and arch-rival Walter Burleigh.[59] Ockham never quotes the *Doctor Clarus et Perspicuus*, however, but probably draws the following summary from a question disputed by Henry of Harclay:[60]

> ...One opinion is that any univocal universal whatever is a certain thing (*res*) that really exists outside the mind in any particular whatever, and is really distinct from any particular whatever, and from any other universal whatever. Thus, the universal man is one thing (*res*) that really exists outside of the mind in any man whatever and is really distinct from any man whatever and from the universal animal and the univer-

58. *Ibid.*, fol.83rb.

59. *Super artem veterem Porphyrii et Aristotelis*, (Venice, 1507, fol.5va–6ra).

60. See Gedeon Gál, "Henricus de Harclay: Quaestio de significato conceptus universalis," *Franciscan Studies* N.S. XXXI (1971): 178–234. Scotus himself considers a similar view and rejects it on the ground that "it seems impossible that any really existing thing should be numerically the same intelligible thing and thus attributed to different things" (*Quaest. stubtil. Metaphysicorum* VII, q.18, n.4, (Wadding IV, 722)).

> sal substance, and so on with respect to all genera and species, whether they are subalternates or not...and all of these things, in themselves in no way multiplied, however much the particulars are multiplied, are in any individual whatever of the same species.[61]

This view contains three principal theses:

(T1) The universal is a thing (*res*) that exists in reality as a metaphysical constituent of particulars;

(T2) The universal exists (or can exist) in reality in numerically distinct particulars simultaneously without being numerically multiplied itself;

and

(T3) The universal is really distinct from particulars and other universals; genus is really distinct from species and from other genera; species from genera and other species; and both genera and species from particulars.

According to this theory, Socrates is a compound or aggregate of many, really distinct universal things—presumably the genus-thing substance, together with several differentia-things that combine with it to make the aggregate species-thing man—along with something else that is the individuating principle. The latter does not individuate the genus or species, so that animal or man in Socrates is numerically distinct from animal or man in Plato. Rather, the universals remain numerically unmultiplied, no matter how many particular men, animals, or substances they exist in. And they combine with one individuating principle to make Socrates and with another to make Plato.

Ockham's confident reaction to this opinion is that it is "absolutely false and absurd";[62] indeed, he contends, "that no universal is a substance existing outside the mind, admits of evi-

61. *Ord.* I, d.2, q.4, (OTh II, 100–101).
62. *Ibid.*, (OTh II, 108).

dent proof."[63] (3.1) To begin with, Ockham attacks (T1) on the ground that it makes universals parts of a particular, in which case

> ...Socrates would be no more a particular real thing (*res*) than a universal thing (*res*), since the whole is no more denominated from one of its essential parts than from another; just as a composite is no more said to be form than matter, or vice versa, even though form is the more principal part.[64]

This argument does not so much derive a contradiction from the view that Ockham opposes, as it represents a confrontation between two fundamentally different conceptions of the metaphysical structure of a particular. Advocates of this first opinion conceive of particulars as aggregates of really distinct properties at least some of which are universal. Abelard had already queried William of Champeaux's suggestion that a cluster consisting entirely of universals—some from the category of substance and others from accidental categories—could ever constitute a particular. If one aggregate of universals could, why not any and every such?[65] If, on the other hand, the aggregate includes some universals such as animal and rational, and some that are particular in and of themselves, Ockham does not see why the whole cluster should not have just as much title to the predicate "universal" as to the predicate "particular". Aggregate-theorists might have responded that there is a reason for identifying particulars with some property-aggregates and not others—viz., that particulars are fully determinate, while not every property-aggregate is complete enough to be so identified. For example, the one that includes only the genus substance and the differentiae animate and mobile is not, because every particular animal is determinate, not only with respect to being mobile, animate

63. *Summa logicae* I, c.15, (OPh I, 50).

64. *Ord.* I, d.2, q.4, (OTh II, 118); cf. *Expos. Praedicam.*, c.8, (OPh II, 165).

65. *The Glosses of Peter Abailard on Porphyry* in vol.1 of *Selections from Medieval Philosophers*, ed. and trans. Richard McKeon, 222–27.

substance, but also with respect to being rational or non-rational, mammal or reptile, two-legged or four-legged, etc. Adhering for a time to some nontrivial version of the Identity of Indiscernibles, William of Champeaux in effect held that a maximal aggregate could be obtained by adding more and more universals, while Burleigh appears to believe that a maximal aggregate is reached only when some non-sharable property is added to the full complement of universals. His answer to Ockham's challenge is that one unsharable property is enough to make the cluster as a whole unsharable, but one sharable or universal property does not make the whole universal.

(3.2) Focussing on (T3), the claim that universals and the particular or its individuating component are really distinct from one another, Ockham argues that in that case each will be able to exist without the other. (3.2.1) First, that the universal thing will be able to exist without the particular thing or individuating principles:

> ...(i) Every real thing (*res*) really prior to another real thing (*res*) really distinct from it can exist without it. But according to you, (ii) this real thing is prior and is really distinct. Therefore, (iii) it can exist without that particular thing.[66]

Behind premiss (i) lies the Aristotelian definition of natural priority, according to which $x$ is naturally prior to $y$ if and only if $y$ depends on $x$ for its existence but not vice versa. (ii) refers to the fact that, according to this theory, a particular man such as Socrates depends for his existence on the existence of universal human nature, which is part of his essence; but universal human nature does not depend for its existence on the existence of Socrates. Without further argument, however, we might question why the conclusion in (iii) should seem so outrageous. After all, it seems perfectly reasonable, for an adherent of this position to say that universal human nature could exist without Socrates or his individuating principles, since it might continue to exist in Plato after Socrates' demise, in Aristotle after Plato's demise, etc. Ockham thinks, however, that if we apply another

66. *Ord.* I, d.2, q.4, (OTh II, 115).

acceptable principle to this conclusion, more objectionable consequences ensue.

> ...(iv) When some real thing (*res*) really distinct from other things can exist without each of them taken dividedly, and it can so exist by its nature, and it does not essentially depend on any of them, it can exist without each of them taken in conjunction—and this by divine power. But according to them, (v) the universal real thing that is signified by 'man' can really exist without each particular man. Therefore, (vi) by divine power, that universal real thing (*res*) could exist without any particular real thing (*res*)...[67]

(iv) is taken for granted by Scotus and Ockham and would perhaps have been accepted by an adherent of the position under attack. It is not obviously true, however: for it does not follow from the fact that this air can exist without occupying four cubic feet, and this air can exist without occupying five cubic feet, and so on for each volume, that this air can exist without occupying any volume at all. Why should such an inference hold where the independent existence of various things is concerned? Ockham further assumes that the conclusion in (vi) will come too close to Platonism for the comfort of a moderate realist. But (vi) does not contradict any of the theses contained in Ockham's summary of the opinion under discussion. (T1) says only that universals *do* exist in particulars—something which Plato would have regarded as impossible—not that they cannot exist without being part of any particular. An adherent of this opinion might simply reply that while universals never do exist in the natural course of things except as parts of particulars, Ockham is right in drawing the consequence of (T3) that it is logically possible for them to do so.

(3.2.2) Conversely, Ockham observes that "...according to them, the individual adds something to the nature, and this something combines with the universal thing (*res*) to make what is one *per se*," and he concludes that "therefore, it does not seem contradictory that what is added should be conserved by God without the approach of any universal nature—which

67. *Ibid.*

seems absurd."[68] But what Ockham finds absurd, adherents of this position might regard as merely unusual. They could say that while individuating principles never do exist without being combined with some universal, it is indeed logically possible that they should do so and that this is no stranger than the logical possibility of the universal human nature existing in separation from any and every particular.

(3.3) Ockham argues that (T2) is impossible on two grounds, the first of which is theological. He reasons that "creation is absolutely out of nothing in such a way that nothing essential and intrinsic to the thing absolutely precedes it in real existence."[69] And "when something is annihilated, nothing intrinsic to the real thing (*res*) will remain in real existence—either in it or in anything else."[70] Consequently, if any such universal thing pertained to the essence of numerically distinct particulars of a given species, no individual of that species could be created at a time when some individual of that species already existed. Similarly, if some individual of that species were annihilated, every member of that species would be destroyed. But it is logically possible that some individual of a given species should be created at a time when some member of that species already exists; and logically possible that some individual should be annihilated without all members of its species being destroyed.[71] Adherents of this position could reply that

> ...something is created or annihilated. Nevertheless, it is not necessary that the nature that is common to it and others should be created or annihilated then.[72]

This time, however, Ockham's definitions are the ones that accord with traditional intentions. And insisting on this, Ockham maintains that

> ...The universal real thing (*res*) is just as essential to the individual as any particular real thing (*res*) is. For according to them, it is just as

68. *Ibid.*
69. *Ibid.*
70. *Ibid.*, (OTh II, 116).
71. *Ibid.*, (OTh II, 115–116).
72. *Ibid.*, (OTh II, 116).

> essential to Socrates that he is a man as that he has this matter and this form. Therefore, just as Socrates cannot be annihilated or created unless both this matter and this form were created or annihilated, so Socrates cannot be created or annihilated unless this thing that is essential to them is nothing beforehand and absolutely nothing afterwards.[73]

Alternatively, this position might deny the assumption that it is logically possible that one individual of a given species should be created when some member of that species already exists or annihilated when some member of that species remains. Clearly, the latter is not an assumption that could be established by empirical evidence. For no matter how often we experience that, for example, a man comes into existence at a time when other men already exist or goes out of existence while other men remain in existence, this will give us no reason to believe that creation and annihilation are possible in such circumstances. For experience gives us no reason to believe that these are not merely cases of generation and corruption rather than creation or annihilation. Ockham's commitment to this premiss may in the end rest on a conception of the particulars of a given species as logically independent of one another. But adherents of the view under discussion conceive of them differently, as all sharing a single real thing that pertains to the essence of each, and so would not be compelled by Ockham's picture to accept the assumption or, for that matter, the conclusion of the argument based on it.

(3.4) Finally, Ockham thinks that (T2) will lead to contradiction when it comes to accounting for the relation between substances and accidents. According to Aristotle, substances are susceptible of contraries. And it is implicit in Ockham's original statement of the opinion under discussion that

> (T4) A particular substance exists only if the real things (*res*) that are its genera and species in the category of substance really exist in that particular.

Further, in arguing for (T2), adherents of this position have im-

73. *Ibid.*, (OTh II, 116–117).

plied that the property (*passio*) risibility inheres in Socrates, only by virtue of the universal property (*passio*) risibility existing and inhering in the universal substance man.[74] Ockham suggests that in the same way they will maintain that

(T5) Particular contraries do not really exist unless the common universal contrary real things (*res*) exist,

and

(T6) A particular accidental property inheres in a particular substance only by virtue of the universal accident's inhering in the universal substance.

But Ockham thinks that it is easy to reduce the conjunction of (T2), (T4), (T5), and (T6) to an absurdity. For it often happens that one of a pair of contraries inheres in one member of a given species and the other in another member of that species at one and the same time. For example, Socrates may be white all over and an Ethiopian black all over at one and the same time. But in that case, it follows, by (T2), (T4), (T5), and (T6), that the universal blackness and the universal whiteness simultaneously inhere in the universal man at one and the same time. And in general it follows that contraries can simultaneously inhere in what is really one and the same thing (*res*)—which is a contradiction. Likewise, it follows that the universal man is susceptible of change. For just as the accidental properties that inhere in particular men vary from time to time, so the universal accidents that inhere in the universal man will vary from time to time.[75]

Further, the conjunction of (T2), (T4), (T5), and (T6) entails certain absurdities in theology. For according to Christian doctrine, human nature is united to the Divine Word in Christ to form one person. But it follows from the above mentioned theses that numerically the same universal man pertains to the essence of Christ and to the essence of Judas and others who are damned and miserable. Thus, it follows from these theses that

74. *Ibid.*, arg.6, (OTh II, 105).
75. *Ibid.*, (OTh II, 120).

> ...something intrinsic and essential to Christ would be damned and miserable both with the misery of guilt and the misery of punishment. For the nature common to Christ and to other men is informed both by happiness in general and by misery in general—both the misery of guilt and the misery of punishment...[76]

Yet,

> ...nothing united to the Divine Word is damned or miserable. Therefore, no such universal nature that can receive contraries—say of happiness and misery—is in Christ.[77]

Again, if something that pertains to the essence of Christ is equally informed by happiness in general and by misery in general, it seems that there is no more reason to say that Christ is happy than that He is miserable.[78] Ockham's conclusion is that there cannot be any such universal substance things (*res*) that inhere in such universal substances.

I think that adherents of this position would have accepted Ockham's development of their theory through theses (T4), (T5), and (T6), and would have granted the conclusion that the universal blackness and the universal whiteness, the universal happiness and the universal misery can simultaneously inhere in the numerically unmultiplied universal man. But they should have denied that this consequence is contradictory or in violation of the Indiscernibility of Identicals. Everyone agrees, they might point out, that contrary accidents can inhere in the same real substance successively. And no one denies that at a given time a single particular may have contraries inhering in different parts of it—e.g., a table may have a white top and black legs. This is because the predication of the contrary accidents is relativized to times and to spatial parts, respectively. In the same way, they will insist, general ascriptions of accidents to universal substances must be understood as relativized to the particulars at which it has them. Thus, just as 'white *simpliciter*' and 'black *simpliciter*' are incompatible properties, but 'white

76. *Ibid.*, (OTh II, 121).
77. *Ibid.*
78. *Ibid.*

all over at $t_1$' and 'black all over at $t_2$' or 'white on top' and 'black on the bottom' are not; so 'white all over at Socrates' and 'black all over at Plato' are not incompatible properties when asserted of universal substances.

Indeed, it is somewhat surprising that Ockham overlooked this line of escape from contradiction, since he avails himself of it in another context. As we shall see (in chapter 6 below), most of Ockham's predecessors and contemporaries thought that it was logically impossible for a single physical object to exist wholly and completely in discontinuous places simultaneously. In defense of this conclusion, they argued that if a physical object could so exist, it would be logically possible that it have some accident at one of the places that it lacked at the other. For example, it might be heated at one place by a fire that is near to the one place but too far away from the other place to affect it there; or something might cause it to be white at the one place, but be too far away to affect its color at the other place. Ockham replies that if a physical object did exist wholly and completely in two discontinuous places simultaneously, then it could have an accident at one of the places that it lacked at the other place. Yet, he denies that this is a contradiction, because we have to understand the predications of such accidents as relativized to place: 'white *simpliciter*' and 'black *simpliciter*' are incompatible predicates, but 'white all over at $p_1$' and 'not white all over at $p_2$' are not incompatible.[79] If Ockham makes this move himself, he must—barring further argumentation—allow the analogous step to his opponents. And when he does, this attempt to reduce the conjunction of (T2), (T4), (T5), and (T6) to contradiction will fail.

## 4. THE SECOND VERSION OF MODERATE REALISM

The second view discussed by Ockham resembles one mistakenly attributed to Duns Scotus by William of Alnwick

79. *Rep.* IV, q.6, (OTh VII, 98–99); q.7, (OTh VII, 131–32); cf. *Quaest. Physicorum,* q.32, (OPh VI).

(d.1332), a Franciscan and independent-minded member of the Scotist school.[80] Like the first, it maintains that

(T7) The nature is somehow common to many in reality.

And true to the spirit of moderate realism, it holds that

(T8) The nature can exist in reality *only* as part of a particular.

Since in the strict sense of 'part', distinct parts of a whole must be really distinct from each other, it follows the first position in asserting that

(T9) The universal is a real extramental thing that is really distinct from the contracting difference

or individuating principle.[81] But it concedes Ockham's principal contention against the first view—viz., that numerically the same nature cannot simultaneously pertain to the essence of numerically distinct particulars—and so endorses the opposite of (T2):

(T10) The nature is numerically multiplied by the contracting differences in distinct particulars.

Thus, according to this position, there will be numerically as many humanities as there are numerically distinct particular human beings.

Ockham, of course, agrees with the consequence that there are numerically as many humanities as there are numerically distinct particular human beings, but contends that the quadruple of assertions in (T7)–(T10) is contradictory.

(4.1) First Ockham reasserts his contention that particulars must be homogeneously particular and therefore charges that (T7) is incompatible with (T8):

> ...There is always a proportion between the whole and a part, in such a

80. *Ord.* I, d.2, q.5, (OTh II, 154, note 1).
81. *Ibid.*, (OTh II, 154).

> way that if the whole is particular and not common, any of its parts is, in the same way, proportionately particular. For one part can be no more particular than another. Therefore, no part of the individual is particular or every part is. But it is not the case that no part is particular. Therefore, every part is particular.[82]

Unlike the first position, however, the view under consideration does not assert that particulars have any parts that are not particular. For although (T7) says that the nature is common, (T10) says that it is individuated and made particular by the contracting difference. A combination of these is what Ockham assails in (4.3) below.

(4.2) Again, Ockham maintains that (T9) entails the denial of (T8). For

> ...if there were two such really distinct things in an individual, it seems there would be no contradiction in one being able to exist without the other. And in that case, the individual degree could exist without the contracted nature, or vice versa—each of which is absurd.[83]

What follows from (T9), however, is merely that human nature can exist without Socrates' contracting difference if it continues to exist together with Plato's or someone else's; or that Socrates' contracting difference can exist without human nature as when it continues to exist together with the corporeal nature of Socrates' corpse. It does not follow that either human nature or any contracting difference could exist without being part of any particular whatever, and it is only the latter that (T8) denies. To derive a denial of (T8), Ockham would have to appeal to the further premiss

(H) When some real thing (*res*) really distinct from other things can exist without each of them taken dividedly, and it can so exist by its nature, and does not essentially depend on any of them, it can exist without each of them taken in conjunction,

82. *Ibid.*, (OTh II, 158–59).
83. *Ibid.*, (OTh II, 159).

which seems at best dubious, as noted above.

(4.3) In another objection, Ockham argues that the conjunction of (T8) and (T10) entails the denial of (T7). He asks what the term 'man' stands for in the proposition 'Man is a species'. Either for some particular humanity, such as the humanity of Socrates or the humanity of Plato; or for some humanity distinct from these. If the first, then it will stand no more for one particular humanity than for another and so will stand for all of them, in which case there will necessarily be numerically as many species as there are particulars—which is absurd. If the second, it has to be asked whether this distinct humanity is something real or only something in the mind. But to say that it is something real, distinct from particulars, and existing separately from them contradicts (T8). And to say that it is something real that is numerically unmultiplied in numerically distinct particulars contradicts (T10). Yet, if it is not something real, distinct from, and existing separately from particulars, or something real, distinct from, and existing in particulars and numerically multiplied as the particulars are multiplied, or something real, distinct from, and existing in particulars and not numerically multiplied as the particulars are multiplied, it seems it cannot be anything real at all. But that is to say that it is only something in the mind is contrary to (T7).[84]

(4.4) The most important of Ockham's attacks on this position is his argument that (T9) entails the denial of (T10). Ockham makes it a fundamental axiom of identity that

> (J) Nothing is individuated through anything extrinsic to it; rather being identical with itself and being distinct from everything else are properties that a thing has in and of itself.

But what is really distinct from a thing is extrinsic to it. Consequently, by (J), the alleged contracting difference cannot individuate a nature that is really distinct from it.[85]

84. *Ibid.*, (OTh II, 156–57).
85. *Ibid.*, (OTh II, 154).

It might be objected that Ockham's appeal to (J) begs the question. For it merely asserts his rejection of the idea that particulars are metaphysical composites of a nature and a contracting difference. No adherent of the view under attack would grant (J) as a premiss.

Whatever may be true about (J), only a more limited instance of it is needed to sustain Ockham's argument:

(K) Nothing individuates or is individuated by what is *really distinct* from it.

And (K) has considerable intuitive plausibility, which Ockham tries to reinforce by means of the following argument:

> ...according to you, the humanity of Socrates is really distinct from the difference that contracts that humanity. Therefore, either it is really distinct of itself or through that contracting difference. Not through the contracting difference, since nothing is made distinct from *a* through *a* but rather is made the same as *a* through *a*. Therefore, this humanity is distinct from the contracting difference of itself. Therefore, these two are really distinct of themselves. But this is possible only if each is numerically one. Therefore, the humanity that is really distinct from the contracting difference is numerically one and numerically distinct of itself...[86]

If there is any initial plausibility in saying that the combination of common human nature with distinct contracting differences makes Socrates' humanity really and numerically distinct from Plato's humanity, there is no plausibility in saying that it is the combination of humanity with a contracting difference that makes the humanity really distinct from that contracting difference itself. And the theory under discussion assumes no further entities by means of which the nature is made really distinct from the contracting difference and vice versa. Thus, according to this theory, they must be really distinct from one another of themselves. And if they are two really distinct things of themselves, then, Ockham reasons, each must be numerically one of itself, so that humanity is not made numerically one by

86. *Ibid.*, (OTh II, 155).

combining with a contracting difference after all. Further, if Socrates' humanity is really and numerically distinct from Plato's humanity, then—since each is numerically one of itself and not through a really distinct contracting difference—they are numerically distinct from each other of themselves as well.

## 5. THE OPINION OF DUNS SCOTUS

The third opinion considered by Ockham is that of Duns Scotus, "the Subtle Doctor, who excels others in subtlety of judgment." Ockham, because of his high regard for Scotus, and because he thought that the latter's position had often been misrepresented, gives this view a detailed and accurate statement, "without changing the words that he uses in various places."[87]

Like the second opinion, Scotus bases his theory on the conviction that the nature must somehow be common in reality, even though it cannot exist apart from any and every particular. For instance, he believes that "the unity that is required in the foundation of a relation of similarity is real. And it is not numerical, since nothing one and the same is similar or equal to itself."[88] Conversely, real opposition between numerically distinct things requires real extremes of the opposition.[89] Again, if Socrates is to be more similar to Plato than to a donkey, it must be that some real thing is common to the former two that is not common to Socrates and the donkey.[90] Similarly, "if nothing existed in the intellect, fire would produce fire and destroy water. And there would be some real unity of form between the producer and the product, because of which unity the production would be univocal..."[91]

If the nature is essentially something real that exists in and is

87. *Ibid.*, q.6, (OTh II, 161).
88. *Ibid.*, (OTh II, 170).
89. *Ibid.*, (OTh II, 171).
90. *Ibid.*, (OTh II, 170).
91. *Ibid.*, (OTh II, 173).

common to numerically distinct real things, Scotus argues that the nature cannot be numerically one of itself. Thus, he writes that

> If one of a pair of opposites pertains to something of itself, the other of the pair of opposites is incompatible with that thing of itself. Therefore, if the nature of man were of itself this, the nature of man would be this man in whatever it is in.[92]

Or again,

> If one of a pair of opposites pertains to something of itself, the other of the pair of opposites is incompatible with that thing of itself. Therefore, if the nature of itself is numerically one, numerical multiplicity is incompatible with the nature of itself.[93]

But, like the second opinion discussed above, Scotus thinks that human nature is numerically one in Socrates and really varied and multiplied in numerically distinct particulars. He concludes, therefore, that there must be something that individuates it, and argues further that it must be something positive that is distinct and determinate of itself.[94] And these individuating principles or thisnesses, which are numerically one and particular of themselves, contract the nature, which is common of itself, so that it, too, is made numerically one and particular. But since the nature is numerically one only through the individual difference, it is said to be one denominatively the way Socrates is said to be white denominatively by virtue of the inherence of whiteness. Unlike adherents of the first two positions, however, Scotus does not think of the nature and the contracting difference as really distinct in such a way that it is logically possible for one of them to exist without the other. Rather a particular real thing such as Socrates can be distinguished "into many formally distinct realities of which this formally is not that, and this formally is the entity of the particular and that formally is

92. *Ord.* II, d.3, p.1, q.1, n.4, (Vaticana VII, 393), quoted by Ockham in *Ord.* I, d.2, q.6, (OTh II, 167).

93. *Ibid.*

94. *Ord.* II, d.3, p.1, q.2–6, (Vaticana VII, 410–494).

the entity of the common nature..."[95]

Just as the nature is not numerically one and particular of itself, so Scotus maintains that "nature of itself is not completely universal."[96] Indeed, if it were, it would be impossible for the nature to be numerically one and particular in reality. Further, the nature is not completely universal insofar as it exists in a real thing. For nothing real is such that it can be truly predicated of each and every particular simultaneously in propositions of the form 'This is that'.

> ...For although it is not incompatible with any nature of itself which exists in a real thing to exist in a different particularity from the one in which it exists, nevertheless, it cannot be truly asserted of any inferior whatever that any whatever is it...[97]

Only the nature insofar as it exists in the intellect as an actual object of thought is thus apt to be predicated of each and every particular that has that nature. Thus, nature is "completely universal insofar as it exists in the intellect."[98]

Scotus's theory of universals could thus be summarized in the following five theses:

(T11) The nature of itself is common and is also common in reality;

(T12) The individuating principles or contracting difference is numerically one and particular of itself and cannot be common to numerically distinct particulars;

(T13) Neither the nature nor the contracting difference can exist in reality except as a constituent of a particular;

(T14) The nature and the contracting difference are not really distinct, but formally distinct;

95. *Ibid.*, q.5–6, n.188, (Vaticana VII, 483–84), quoted by Ockham in *Ord.* I, d.2, q.6, (OTh II, 162).
96. *Ibid.*, (OTh II, 165).
97. *Ibid.*
98. *Ibid.*

and

(T15) As a result of its combination with a contracting difference, the nature is numerically one and is numerically multiplied as the particulars are multiplied.

Having laid out Scotus's opinion and his arguments for it at some length, Ockham remarks that "there are two possible ways of arguing against this opinion."[99] The first is to reject the formal distinction that Scotus employs to explain the relation between the nature and the contracting difference in a real thing. The second is to show how the position is contradictory, even if the formal distinction is granted. Ockham follows each in turn.

## 6. OCKHAM'S CRITIQUE OF THE FORMAL DISTINCTION

Scotus maintains that in reality, prior to every act of intellect, $x$ and $y$ may be formally nonidentical or distinct even though $x$ and $y$ are really the same or at least in what is really the same thing (*res*). Ockham argues, on the contrary, that it is impossible for any creatures to be formally distinct without being really distinct.

> ...I argue this way: (i) Wherever there is any distinction or nonidentity [between beings], there some contradictories can be truly asserted of those beings. (ii) But it is impossible that contradictories should be truly asserted of any things, or of those for which they supposit, unless they are (a) distinct real things (*res*) or (b) distinct concepts (*rationes*) or beings of reason (*entia rationis*) or (c) a thing (*res*) and a concept (*ratio*). But if (iii) they all exist in reality, (iv) they are not distinct concepts. (v) Nor are they a thing and a concept. Therefore, (vi) they will be distinct things (*res*).[100]

99. *Ibid.*, (OTh II, 173).
100. *Ibid.*, q.1, (OTh II, 14); cf. q.6, (OTh II, 173).

As Ockham himself points out, premiss (i) is trivially true:

> ...For if *a* and *b* are not in every way the same, then both of the propositions '*a* is in every way the same as *a*' and '*b* is not in every way the same as *a*' are true...[101]

Premiss (iii) is part of Scotus's view. The crucial premiss (ii) rests on two assumptions. Of these, the uncontroversial one is the Indiscernibility of Identicals, which stipulates that it cannot be simultaneously true that $x$ is $F$ and $y$ is not $F$, unless $x$ and $y$ are somehow nonidentical or distinct. The other is that (a), (b), and (c) is an exhaustive list of the alternatives under which such nonidentity or distinction might obtain. If it were complete, Ockham's desired conclusion—that no creatures can be formally distinct without being really distinct—would be assured, since (iv), (v), and (vi) would follow, given the conjunction of (i), (ii), and (iii). The principal thrust of Scotus's position, however, was to insist on a fourth and/or fifth alternative: (d) $x$ is not formally the same as or is formally distinct from $y$; or (e) $x$ and $y$ are relatively distinct. Ockham must justify his exclusion of these alternatives, if he is to avoid begging the question. Let us consider his reaction to each of (d) and (e) in turn.

(6.1) The list of (a), (b), and (c) is based directly on Ockham's ontology, according to which real things (*res*) and beings of reason or concepts are the only beings there are. In particular, his ontology does not include any real beings that are not real things (*res*). Scotus's first account of formal distinction presupposes an ontology in which the category of real beings is not exhausted by real things (*res*). Rather it begins with formalities or realities that can have a double mode of existence: they can exist in reality as constituents of real things (*res*) or they can have a non-real mode of existence in the intellect as objects of thought or concepts. Some properties are true of the formalities of themselves—viz., their essential properties; other are predicated of the formalities only insofar as they exist in one mode of existence or the other. For example, Scotus says that

101. *Ibid.*, q.1, (OTh II, 14).

the nature man is, of itself, rational, mortal, and animal. Further, man is universal insofar as it exists in the intellect and is apt to be predicated of many, but particular insofar as it exists in reality. On the other hand, man of itself is neither universal nor particular, but indifferent to each.

With such a wider ontology, Scotus could identify mind-independent property-bearers of which propositions of the form '*x* is *F*' and '*y* is not *F*' are true with nonidentical or distinct formalities. And he could insist that there is no more problem about their existing in what is really one and the same thing (*res*) than there is about a table's having a completely white top and a completely black bottom.

In at least one place, Ockham seems to acknowledge that Scotus could have had such a contrasting ontology in mind. For criticizing Scotus's assertion, following Avicenna, of the proposition 'Equinity of itself is indifferent with respect to being universal and indifferent with respect to being particular', Ockham asks what 'equinity' stands for in that proposition. If it stands for the concept 'equinity', the proposition will be false, because the concept 'equinity' is not indifferent with respect to being particular, but can in no way be particular. On the other hand, if 'equinity' stands for particular horses, the proposition is still false, since particular horses are not indifferent with respect to being particular either. Thus, if 'equinity' can stand only for a concept or being of reason, on the one hand, or for particulars on the other, the proposition 'Equinity of itself is indifferent with respect to being universal and indifferent with respect to being particular' will be false. Ockham concludes his statement of this reasoning with

> ...Therefore, it seems that besides the supposition for the concept and for the particular thing, it would be necessary to assume a third in which the term supposits for the quiddity that is absolutely indifferent to each...[102]

But, unlike some of his predecessors, Ockham admits no such

102. *Ibid.*, q.6, (OTh II, 219).

supposition, since his ontology admits no such entities.[103]

Apparently, Ockham's principal objection to such an ontology is that it leaves us with no resources for proving a real distinction among really existent beings. He reasons that all contradictories are equally contradictory. Thus, if some propositions of the form '*x* is *F*' and '*y* is not *F*' can be true about really existent property-bearers that are only formally distinct, it would seem that any pair of contradictories can. "...And so every way of proving real distinction or nonidentity among any beings whatever would perish..." For example, if 'Divine wisdom is formally divine wisdom and divine goodness is not formally divine wisdom' entails only 'Divine wisdom and divine goodness are formally distinct', then what reason is there to suppose that 'A man is rational and a donkey is not rational' entails 'A man and a donkey are really distinct' and not merely 'A man and a donkey are formally distinct'? And in general, what would bar the conclusion that everything is really one thing (*res*) within which many formalities can be distinguished?

Ockham realizes what Scotus's reply would be: viz., "that real nonidentity can be proved through primary contradictories, but this cannot be done through other contradictories."[104] Propositions that are implicitly or explicitly of the form '*x* is formally *F*' and '*y* is not formally *F*' are not primary contradictories,"[105] however, because the 'formally' diminishes the supposition from the thing (*res*) of which *x* and *y* are alike constituents, to the constituent formality *x* and *y*, respectively. Ockham's recurrent answer, that "all contradictories are equally incompatible"[106] and that 'formally' and 'really' cannot function to distract or diminish the supposition, represents a persistent begging of the question against Scotus's ontology.

103. For a fuller account of Ockham's doctrine of supposition, see Part Two, chapter 10 below.

104. *Ord.* I, d.2, q.6, (OTh II, 174).

105. *Ibid.*

106. *Ibid.*

(6.2) If the *Lectura-Ordinatio* account removes the contradiction by finding distinct subjects for the contradictory predicates to be asserted about, the *Reportata*-position, which abolishes the notion of a plurality of entities or formalities within what is really one and the same thing, will have to provide an alternative solution. Recall that for Scotus, $x$ and $y$ are distinct *secundum quid*, if $x$ and $y$ are really the same but lack formal or adequate identity. Following (F), $x$ and $y$ lack formal identity if and only if they are really the same and, where they are definable, neither falls under the definition of the other or, where they are not definable, neither would fall under the definition of the other if they were. Focussing on Scotus's claim that infinite divine wisdom and infinite divine goodness are not formally the same by this criterion, Ockham writes,

> ...When it is said that if infinite wisdom were definable, and likewise infinite goodness, their definitions would be distinct, I reply that this is absolutely false...[107]

To be sure, he allows, the concepts of infinite wisdom and infinite goodness, which are formed by adding the concept of infinity to the concepts of wisdom in general and goodness in general, respectively, have distinct nominal definitions. Abandoning the, to Ockham's mind, incorrect view that infinite wisdom and infinite goodness are distinct realities or formalities within the divine essence, we will have to conclude that divine wisdom and divine goodness are in every way the same in reality. And while Ockham grants, contrary to the premiss of Scotus's epistemological argument, that what is in every way the same real thing can genuinely fall under the distinct concepts of infinite wisdom and infinite goodness, still there would be only one real definition (*quid rei*) there, because there would be only one reality there to be defined. And in general, no $x$ and $y$ that were in every way the same in reality would receive distinct real definitions, if they were definable.

Again, for $x$ and $y$ to lack adequate identity is for $x$ and $y$ to be

107. *Ibid.*, q.1, (OTh II, 30–31).

really the same and yet for one to exceed the other in predication or perfection. For example, human nature and the contracting difference Socrateity would lack adequate identity; for while they are really the same, man is predicable of more than Socrateity is. This is tantamount, however, to saying that $x$ and $y$ lack adequate identity where $x$ and $y$ are really the same, but for some $F$, $x$ is $F$ and $y$ is not $F$. Where $x$ and $y$ are thought of as distinct entities within the same real thing (*res*), there is at least the appearance that the incompatible properties were being asserted about distinct property-bearers. But once that ontology is abandoned, Scotus is left asserting contradictories about what is in reality one and the same thing (*res*). And Ockham will again object that this is to abandon the Indiscernibility of Identicals as a criterion of real distinction and thus to lose every way of proving distinction among real things.

Scotus could reply that even on his second account, he is not left asserting contradictories about what is *in every way* the same in reality. Rather he allows that contradictories may be true about $x$ and $y$, where $x$ and $y$ are really the same, only if $x$ and $y$ lack formal or adequate identity.

This defense seems circular. For according to the *Reportata*, the lack of formal or adequate identity itself partially consists in the assertion of contradictories about really the same thing; the lack of formal or adequate identity cannot, therefore, be invoked to explain how those very predications are possible. Perhaps the thrust of Scotus's *Reportata*-position is to convert the formality-names of the *Lectura-Ordinatio* into adverbial modifiers. Thus, whereas the *Lectura-Ordinatio* would find 'Divine wisdom is really the same as divine goodness, but divine wisdom would be definable by $D_1$ and not $D_2$, whereas divine goodness would be definable by $D_2$ and not $D_1$' consistent because divine wisdom and divine goodness are distinct formalities within the same divine essence, the *Reportata* would expound the claim by saying that one and the same divine essence is wisdom-wise definable by $D_1$ and not $D_2$, but goodness-wise definable by $D_2$ and not $D_1$, where 'wisdom-wise definable by $D_1$' and 'not goodness-wise definable by $D_1$' are no more contradictory than Ockham would say 'color-wise

similar' and 'not shape-wise similar' are. Once again, I do not see how Ockham could be fair in disallowing this move to Scotus.

## 7. SCOTUS'S THESES ARE MUTUALLY INCONSISTENT

Granting the formal distinction for the sake of argument, Ockham tries with mixed success to argue that Scotus's theory of universals is internally inconsistent. (7.1) First, Ockham maintains that (T13) is inconsistent with (T11) on the now familiar ground that particulars must be homogeneously particular in the sense of having no constituents that are not particular. Unlike the first view but like the second view examined above, Scotus would reply that he does not claim that particulars have any parts that are not particular. By (T12), Socrateity is numerically one and particular of itself; and by (T15), human nature in Socrates is numerically one and particular denominatively. It is just that he adds that human nature of itself is common and that it is common in reality—in (T11).

(7.2) To this last, Ockham objects that the conjunction of (T11) with (T15) has the absurd consequence "that there are as many species as there are individuals." For according to Scotus, this commonness or unity less than numerical unity pertains to the nature *per se* in the second way and so will accompany it wherever it exists. Thus,

> ...just as there are really two natures in Socrates and Plato, so there will really be two lesser unities. But this lesser unity is either commonness or inseparable from commonness, and consequently inseparable from being common. Therefore, there are two common entities in Socrates and Plato, and consequently two species. Consequently, Socrates would be under one common and Plato under another, and so there would be as many common [entities]—even of the most generic entities—as there are individuals, which seems absurd.[108]

This argument seems to misrepresent Scotus's position, how-

108. *Ibid.*, q.6, (OTh II, 182–83).

ever. For the latter does not identify species with the common nature existing in reality, but with the nature insofar as it exists in the intellect as an abstract general concept. The nature insofar as it exists in reality in particulars is only incompletely universal. Hence, Scotus is not committed to the view that as many are completely universal as are particular.

(7.3) Again, Ockham contends that Scotus's theory of universals, like the second position examined above, contradicts Ockham's own fundamental axiom of identity

(J) Nothing is individuated through anything extrinsic to it; rather being identical with itself and being distinct from everything else are properties that a thing has in and of itself.

But the conjunction of (T14) and (T15) imply that the common nature is individuated by what is formally distinct from it. To say that one thing is formally distinct from another is to imply that neither falls under the definition of the other and so that neither is an essential constituent of the other. Hence, it seems that (T14) and (T15) are incompatible with (J).

Ockham's contention that a thing is not made the same as itself and distinct from others by virtue of something *really* distinct from it and from each of its essential parts seems highly plausible and would have been granted by Scotus. But the latter would have rejected (J) as false where the putative individuator is only formally distinct from but really the same as what it individuates. And nothing in Ockham's present argument would compel him to abandon his own intuitions about identity and distinction in favor of Ockham's.

(7.4) If the above three arguments are indecisive, I believe that Ockham's fourth attack is fatal to Scotus's theory. Ockham maintains that (T11)—the claim that the nature of itself is common and is also common in reality—is inconsistent with the conjunction of (T13)—the claim that neither the nature nor the contracting difference can exist in reality except as a constituent of a particular—and (T15)—the claim that as a result of its combination with a contracting difference, the nature is numerically

one and is numerically multiplied as the particulars are multiplied. His objective is to convict Scotus's notion that the nature is incompletely universal in reality, which was invoked in reply to (7.2) above, of unintelligibility.

Scotus, in his effort to show that the nature is not *this* of itself, has endorsed the principle that

> (L) If one of a pair of opposites pertains to something of itself, the other of the pair of opposites is incompatible with that thing of itself...[109]

Thus, by (L), if the nature were *this* of itself, being *that* would be incompatible with it of itself and so it would not be common of itself. For the nature would be common only if existence in another were compatible with it. Again, if the nature were numerically one and particular of itself, numerical multiplicity would be incompatible with it of itself, and so it would not of itself be common or one by a unity less than numerical unity. Ockham contends that Scotus ought, in like manner to grant the following:

> (M) ...Whenever one of a pair of opposites really pertains to something in such a way that that thing is truly and really denominated from it, whether they pertain to it of itself or through something else—this fact remaining unchanged—the other of the opposites does not really pertain to it, but will be absolutely denied of it...[110]

But by (T13), the nature does not exist otherwise than together with some contracting difference or other; and by (T15), the nature is numerically one and particular, as a result of its combination with a contracting difference. Thus, by (M), no nature can simultaneously be common the way (T11) asserts it to be.

Ockham considers the objection that "the two unities are not really opposed."[111] But this seems contrary to Scotus's own

109. *Ord.* II, d.3, p.1, q.1, n.4, (Vaticana VII, 393).
110. *Ord.* I, d.2, q.6, (OTh II, 177).
111. *Ibid.*

claims. For the latter says that "Multiplicity that cannot stand together with the greater unity because it is opposed to it, can without contradiction stand together with the lesser unity."[112] And he has used this fact to justify substituting 'commonness' and 'numerical unity' or 'particularity' in (L) to derive the result that if the nature is common of itself, it cannot also be numerically one and particular of itself. Thus, Ockham reasserts the analogous argument based on (M):

> Further, whenever the consequents are incompatible, the antecedents will be incompatible. But the inferences '*a* is common or one by the lesser unity; therefore *a* stands together with the multiplicity that is opposed to the greater unity—viz., numerical multiplicity' and '*a* is one by the greater unity; therefore the opposed multiplicity—viz., numerical multiplicity—does not stand together with *a*' both hold. But 'Numerical multiplicity stands together with *a*' and 'Numerical multiplicity does not stand together with *a*' are incompatible. Therefore, '*a* is one by the lesser unity' is false, taking '*a*' for the nature which you say is always one by the lesser unity...[113]

A defender of Scotus might reply, alternatively, that while (L) holds good, viz., that if $x$ is $F$ of itself, not-$F$ is incompatible with $x$ of itself, it is not the case that if $x$ is $F$—no matter whether of itself, *per se*, or denominatively—not-$F$ is incompatible with $x$. For a man is white denominatively, and a white is white *per se*. But "...blackness stands together with a man and does not stand together with a white. Nevertheless, a man is white, and *a* is a man and white."[114] In the same way, being *that* may be compatible with the nature, even though being *that* is not compatible with being *this*—e.g., being Socrates' humanity is compatible with human nature even though it is not compatible with being Plato's. And numerical multiplicity may be compatible with the nature of itself, even though numerical multiplicity is incompatible with a particular.

Ockham thinks that this is likewise mistaken:

112. Quoted by Ockham in *ibid.*
113. *Ibid.*, (OTh II, 178).
114. *Ibid.*

> ...For taking 'to stand' in the same way [in each premiss], one of them is false. Taking 'to stand' actually, then it is false that blackness stands together with Socrates, if Socrates is white. But taking it potentially, then it is false that blackness does not stand together with a white, since blackness can stand together with a white inasmuch as a white can be black or have blackness. Thus, even though blackness is incompatible with whiteness, nevertheless it is compatible with that which is white. Consequently, it is compatible with a white, since the two terms 'white' and 'that which is white' convert.[115]

If Socrates is white, blackness is not actually compatible with Socrates, because it is a contradiction to say that Socrates is white and Socrates is black. But blackness is potentially compatible with Socrates, because even if Socrates is in fact white, it is logically possible that whiteness not inhere in Socrates and blackness inhere in him instead. Similarly, if humanity in Socrates is *this* humanity denominatively, it is not actually, but at most potentially compatible with Plato's contracting difference. And if humanity in Socrates is numerically one and particular, it is not actually, but at most potentially compatible with numerical multiplicity.

Scotus might reply, however, that this is all that he intended to claim: viz., that just as Socrates is not black while he is white, so humanity is not *that* while it is *this*, or numerically many while it is numerically one. Nevertheless, just as it is possible that Socrates should exist without whiteness inhering in him and have blackness inhering in him instead, so it is possible that the humanity in Socrates should not be combined with Socrates' contracting difference, that it should be combined with Plato's contracting difference instead, and that humanity should not be numerically one but should be numerically many instead. And it is the fact that any humanity in reality is only potentially compatible with each of a plurality of thisnesses and only potentially compatible with numerical multiplicity, but not actually compatible with them, that makes Scotus say that the nature in reality is only common and incompletely universal, not completely universal.

115. *Ibid.*, (OTh II, 179).

Ockham thinks that Scotus's position, so interpreted, is still unsatisfactory, given his assertion of (T14). For if humanity in Socrates is formally but not really distinct from Socrateity, it follows that it is not logically possible for the former to exist in a thing (*res*) without the latter existing in the same thing, the way it *is* logically possible for Socrates to exist without whiteness inhering in him and to have blackness inhering in him instead. Consequently, it is not even logically possible for humanity in Socrates to exist without being determinately Socrates' and so not even logically possible that it should be determinately Plato's instead. Again, it is not even logically possible that it should actually exist in numerically many at once. Thus, Ockham writes,

> ...his claim that a multiplicity opposed to the greater unity can, without contradiction, stand together with the lesser unity seems incompatible with his other claim that the nature and the individual difference do not really differ. For when any two are really the same, whatever can, by divine power, really be one of them can be the other. But this individual difference cannot be numerically many really distinct things. Therefore, neither can the nature, which is really the same as the contracting difference, be many really distinct things. Nor, consequently, can it be any thing (*res*) other than the contracting difference. Thus, the nature is not without contradiction compared to numerical multiplicity.[116]

Since the individual difference cannot exist in many things (*res*) and the nature is really the same as Socrates' individual difference and cannot exist in anything without that individual difference, it follows that the nature cannot exist in many things (*res*) either. Hence, neither existence in another nor existence in many is even potentially compatible with any nature in reality and none is common in reality, where for the nature to be common is for existence in another to be compatible with it or for numerical multiplicity to be compatible with it. And (T11) is inconsistent with the conjunction of (T12), (T13), (T14), and (T15).

116. *Ibid.*

It might seem that Scotus could circumvent this complaint of Ockham's by simply retracting the contention (T15) that as a result of its combination with a contracting difference the nature is numerically one and really varied and multiplied by distinct contracting differences. Given the first version of the formal distinction, his theory would then distinguish within what is really one and the same thing, two formalities or realities, one of which is proper of itself and the other of which is common. No contradiction would arise, because the contradictory properties would be born by distinct property-bearers. Further, the nature, as unvaried and unmultiplied in many, would be completely, as opposed to incompletely, universal; and so genus and species could be identified with something real.

Initially attractive as this proposal might seem, it will not fare any better in the end given Scotus's assertion of (T14), that while the nature and individual differences are formally distinct, they are, or are constituents of really the same thing, in such a way that it is logically impossible that either should exist without the other. Thus, it would be logically impossible for humanity in Socrates to exist without Socrateity, and logically impossible for humanity in Plato to exist without Plato's individual difference. But if by hypothesis human nature is not really varied and multiplied by the individual differences, then it will follow that it is the same humanity that is in both Socrates and Plato and hence that it is logically impossible for Socrates to exist without Plato existing and vice versa. Indeed, given a commitment to possible particular men, it will be impossible for any possible man to exist without each and every other man existing—which is absurd. It seems, then, that Scotus could not, without difficulty, retain (T14), while maintaining that humanity is not really varied and multiplied in Socrates and Plato.

He could in addition give up (T14) and replace (T13) with (T1), in which case his position would collapse into the one Ockham first examines in *Ordinatio* I, d.2, q.4. This would not make Scotus's theory of universals any more palatable to Ockham. But, as I have argued in section 3 above, Ockham's efforts to reduce the first version of moderate realism to a con-

tradiction are unsuccessful. His arguments serve more to articulate the contrasting conceptions of the metaphysical structure of particulars than to refute his opponents.

Alternatively, Scotus could avoid both of Ockham's complaints by giving up (T11), the notion that the nature is common either of itself or in reality. But of all his contentions, that is the one that Scotus was most eager to preserve.

## 8. UNIVERSAL AND PARTICULAR ARE REALLY THE SAME BUT DISTINCT ACCORDING TO REASON

Some moderate realists believed that every really existent thing is particular and recognized that the universal and particular cannot be in every way the same. Accordingly, they concluded that "the universal and particular are really the same thing and that there is only a distinction of reason between them."[117] Ockham examines three versions of this view. (8.1) The first is similar to one stated by Thomas Aquinas and his Dominican follower Hervaeus Natalis (d.1323).[118] It asserts, among other things, that

> ...specific form of itself is one simple thing, and as such is universal. But the form as signed in this suppositum is particular...[119]

(8.2) The second assumes

> ...that a real thing (*res*) according to its actual existence is particular. And the same real thing (*res*) according to its existence in the intellect is universal. Thus, the same real thing (*res*) according to one existence or consideration is universal and according to another existence or consideration is particular.[120]

117. *Ibid.*, q.7, (OTh II, 229).

118. Thomas Aquinas, *Opuscula* XXVII, tractatus I, *De universalibus*, and Hervaeus Natalis, *Commentaria in quattuor libros Sententiarum* II, d.3, q.3, (Paris, 1647, 111). See *Ord.* I, d.2, q.7, (OTh II, 226, note 1).

119. *Ord.* I, d.2, q.7, (OTh II, 227).

120. *Ibid.*

(8.3) The third was held by Henry of Harclay, who supposed that "the same real thing (*res*) is universal under one concept and particular under another concept."[121] The suggestion is that a particular such as Socrates can cause a variety of different concepts in the intellect. Socrates can cause a distinct concept of himself in particular. But he can also cause a confused concept by means of which the intellect cannot distinguish Socrates from Plato. Harclay wants to say that Socrates distinctly conceived is particular; but Socrates confusedly conceived is universal.[122]

The general difficulty that Ockham finds with all three of these positions is that each of them tries to devise a way of predicating the contradictory properties of being particular and being universal of what is really one and the same thing. But Ockham argues that since the latter are contradictory properties, they must, by the Indiscernibility of Identicals, be born by distinct property-bearers. And these philosophers do not recognize the formal distinction, but rather believe that real things (*res*) are the only really distinct property-bearers there are. Hence, they cannot consistently say that contradictories are born by what is really one and the same thing (*res*).[123]

Adherents of (8.1) and (8.2) will reply that while being particular is a property that things have insofar as they exist in reality, being universal is a property that they have only in relation to their being understood. Ockham counters that the activity of understanding is extrinsic to any real thing. And there are only certain properties that a thing can have by virtue of something extrinsic to it. A man, for instance, can be white by virtue of the inherence of something extrinsic to him—viz., whiteness. Again, a man can be tall in relation to other men who are extrinsic to him. But according to unaided natural reason, neither the inherence of nor the relation to anything extrinsic could make it true that a man is a donkey or a cow, or in general that a man has any property incompatible with any of his essential proper-

121. *Ibid.*

122. *Ibid.*, (OTh II, 228); cf. (OTh II, 227–28, note 1).

123. Ockham's 2nd general counter-argument, *ibid.*, (OTh II, 236).

ties. And Ockham insists that it is essential to every real thing to be particular, so that being universal is just as contrary to the essence of any real thing, as being a donkey or a cow is to the essential properties of being a man. Thus, Ockham reasons,

> ...When something is incompatible with another by the nature of the thing, it cannot pertain to that thing through anything extrinsic. But being common to another thing (*res*) is incompatible with each thing (*res*) of itself. Therefore, commonness cannot pertain to anything (*res*) through anything extrinsic...[124]

And although there are certain properties that can be truly asserted of a thing by virtue of its relation to the intellect—that of being thought of, being conceived of, etc.—nevertheless, "whether or not the thing that is particular is understood, it will not be able to be common or universal according to any existence."[125]

Again, each of the three versions of the opinion stated by Ockham tries to remove the contradiction by inserting adverbial modifiers into the predication statements, so that we have not '*x* is *F*' and '*x* is not *F*', but '*x* of itself is *F*' and '*x* signed by suppositum is not *F*'; or '*x* according to one existence is *F*' and '*x* according to another existence is not *F*'; or '*x* confusedly conceived is *F*' and '*x* distinctly conceived is not *F*'. But Ockham insists that this will not work either. For on his view, adverbial modifiers could remove the contradiction only if they served to alter the supposition of the subject term, so that it stood for different things in the different propositions and the resultant statements asserted the contradictory properties about different property-bearers. But this will happen only if the supposition of the term is diminished or distracted from its usual supposition to something else. And Ockham thinks that this can happen only in a certain narrow range of cases. Thus,

> ...a determination diminishes [the supposition] when some part of the whole is expressed and denominated by that determination, as is clear

124. Ockham's reply to (8.2), *ibid.*, (OTh II, 241).
125. *Ibid.*; cf. Ockham's reply to (8.3), *ibid.*, (OTh II, 243, 249).

> when one says that an Ethiopian is white with respect to his teeth. For there the denominated part is expressed. For if the denomination of such a part is not sufficient to determine the whole, then the determination diminishes the supposition...[126]

Thus, 'An Ethiopian is white with respect to his teeth' does not entail 'An Ethiopian is white', but only 'An Ethiopian has white teeth'. But the above mentioned adverbial modifiers do not mention a part of the subject and so do not diminish the supposition of the subject term, so that it stands for a part instead of the whole. Again, Ockham maintains that

> ...these determinations do not distract [the supposition], since the determination that distracts [the supposition] is sometimes absolutely incompatible with the thing (*res*) or at least with the existence of that to which it is added. But it denominates it, because it properly and truly denominates something that was its part. This is clear, for example, of 'dead', when something is called a dead man. For it is impossible that a man exists and nevertheless that he is dead. But it is said, according to ordinary usage, that a man is dead because the body that was part of him was truly dead. It is clear that this is not the way it is in the case at hand, however. Therefore, these determinations do not distract the supposition.[127]

In Ockham's view, being universal is absolutely incompatible with any really existent thing. But unlike the first and second versions of moderate realism, the views under discussion now do not admit that the universal is part of a particular; rather they say that it is really the same as a particular. Thus, the adverbial modifiers cannot be seen to distract the supposition in the above described way. Ockham's conclusion is that

> ...there is always a formal inference from a determinable taken together with a determination that neither distracts nor diminishes the supposition to that determinable taken absolutely. Thus, 'A thing under such a concept is universal; therefore, a thing is universal' is a formal inference...[128]

126. Ockham's reply to (8.3), *ibid.*, (OTh II, 244).
127. *Ibid.*, (OTh II, 245).
128. *Ibid.*, (OTh II, 244).

Or again, that

> ...it is not good to make such claims as the following: that the same thing under one intention is particular and under another is universal; or that according to such and such existence is a man and according to another existence is not a man but something else; and many other similar claims—say that if a thing (*res*) is considered one way, then it is this, but considered in a different way, it is another. For such propositions, which include such determinations, imply propositions that absolutely lack such determinations. For if this were not so, I could say equally well that man according to one existence or consideration or intention is a donkey, and under another is a cow and under another is a lion—which is absurd. Therefore, such claims represent an altogether improper way of speaking and a departure from all scientific modes of expression.[129]

On the other hand, Ockham argues that this position cannot admit that the universal and particular are somehow distinct without conceding that the universal is a being of reason and not a real being after all.

> ...(i) opposites necessarily pertain primarily to distinct things. But (ii) universality and particularity are opposites of this kind, according to all of them. Therefore, (iii) distinct things are primarily and immediately denominated by them. Therefore, (iv) either (a) they are formally distinct—which was disproved earlier [in *Ordinatio* I, d.2, q.6]; or (b) they are distinct things (*res*)—and hence we return to the first or second opinion disproved in the first questions [i.e., in *Ordinatio* I, d.2, q.4–5]; or (c) they are distinct beings of reason; or (d) distinct as a real being and a being of reason. (v) Certainly what is primarily and immediately particular is not a being of reason. Therefore, (vi) what is primarily and immediately denominated universal is merely a being in the mind. Consequently, (vii) it is not a thing.[130]

Ockham hopes by such an argument to reduce the "common opinion" to his own.

The allegedly exhaustive disjunction in (iv) reflects Ockham's ontology according to which real things (*res*), which can exist in

129. *Ibid.*, (OTh II, 248).

130. Ockham's 1st general counter-argument, *ibid.*, (OTh II, 235–36); Ockham's reply to the 1st version, (OTh II, 240).

reality, and beings of reason which have a non-real mode of existence as objects of thought, are the only beings there are. And (iv) presupposes another assumption, made more explicit in Ockham's critique of the first version of this opinion, that

(iv) There can be a distinction of reason between $x$ and $y$ only if at least one of $x$ and $y$ is a being of reason,

which in turn rest on Ockham's contention that, strictly speaking, real sameness and distinction are relations that obtain only between real things (*res*), while sameness and distinction of reason are relations that obtain only between beings of reason. Strictly, there is an intermediate distinction between a real thing and a being of reason, but in a broad sense there can be said to be a distinction of reason between them (see section 2 above). Thus, from Ockham's point of view, it is absurd to say that the universal and particular are really the same but there is a distinction of reason between them. For if they are both really the same, then they must both be real things and therefore not the kind of thing that can be either the same or distinct according to reason. But if there is a distinction of reason between them, then at least one of them is a being of reason and so not the kind of thing that can be really the same as or really distinct from anything else.

Ockham's double-pronged attack is not clearly successful against any of the three versions he discusses, however. (R8.1) For one thing, it is not clear from Ockham's statement of the first version, that it starts with an ontology exhausted by real things and beings of reason rather than with an ontology of properties like Scotus's. According to the latter, natures are included in the ontology, whether or not they exist at all, and those features of a nature that are essential to it can be truly predicated of that nature without presupposing it to exist. Nevertheless, each nature can have a double mode of existence—in reality or in the intellect as an object of thought—and other predicates truly apply to it insofar as it exists in these modes. If the first version of this position did presuppose such an ontology, the criticisms Ockham actually

gives would be ineffective against it. But he could still reject it for one of the same reasons he rejects Scotus's position: viz., that the essential properties of a nature accompany it in all of the modes of its existence. Therefore, just as man is animal both of itself and insofar as it exists in reality, so it would be universal both of itself and insofar as it exists in reality. Hence it would be both universal and particular in reality—which Ockham claims is contradictory.

(R8.2) From Ockham's account of it, the second version, too, may have presupposed an ontology like Scotus's rather than Ockham's. Further, it does not create trouble for itself by asserting that a species is universal of itself, but maintains only that it is universal according to its existence in the intellect and particular according to its existence in reality. Ockham replies that this position is contradictory because 'Man according to its existence in the intellect is universal' entails 'Man is universal', and 'Man according to its existence in reality is particular' entails 'Man is particular'. The latter contention rests on Ockham's assumption that the only way the adverbial phrases 'according to its existence in the intellect' and 'according to its existence in reality' could function to remove the contradiction is by serving to change the supposition of the subject term, so that it stands for different things in different propositions. And adherents of this position would agree with Ockham that the latter phrases do not so function. Nevertheless, they might maintain that there is more than one way of showing that apparently contradictory statements are not really contradictory: one can argue that although predicates are genuinely contradictory, they are not really predicated of the same thing; or one can maintain that although the predications are made about the very same thing, they are only apparently contradictory. Ockham leaves the second of these alternatives completely out of account here, the way he did in dealing with the first version of moderate realism (see section 3 above). But adherents of this position might contend that the above mentioned adverbial phrases function, not to alter the supposition, but to condition the predications in such a way that they are not genuine contradictories. One could think of these adverbial phrases as acting to condition the

predication the way that modal operators are supposed to do. Thus, just as 'Possibly $x$ is $F$' and 'Possibly $x$ is not $F$' are not contradictory, although '$x$ is $F$' and '$x$ is not $F$' are; so 'In the intellect, $x$ is universal' and 'In reality, $x$ is particular' would not be contradictory, although 'In reality, $x$ is universal' and 'In reality, $x$ is particular' would be. Alternatively, one could develop the position by saying that while the predicates 'universal' and 'particular' appear to be one-place predicates, they are really two-place predicates—one place of which is satisfied by the thing in question and the other by a mode of existence. Thus, symbolizing '$x$ according to its existence in the intellect is universal' by 'Universal ($x$, existence in the intellect)' and '$x$ according to its existence in reality is particular' by 'Particular ($x$, existence in reality)', it could be pointed out that 'Universal ($x$, existence in the intellect)' and 'Particular ($x$, existence in reality)' are no more contradictory than 'Taller ($x$, $y$)' and 'Shorter ($x$, $z$)' (where $y \neq z$). The latter approach has a disadvantage by comparison with the former in that it quantifies over modes of existence, and some explanation would have to be given of what they are. But either approach would circumvent the criticisms Ockham offers.

(R8.3) Henry of Harclay, by contrast, seems to accept Ockham's ontology of real things and concepts and to abandon the notion that the same thing might exist in and have contradictory properties in different modes of existence. Rather he suggests that the same thing can have those apparently contradictory properties even insofar as it exists in reality, because even insofar as it exists in reality, *it* can be conceived of under different concepts. And it is open to Henry to reject Ockham's charge that 'Socrates confusedly conceived is particular' entails 'Socrates is particular', by insisting that the predicates 'universal' and 'particular' are not one-place predicates, but two-place predicates, the first place of which is satisfied by a real thing such as Socrates and the other of which is satisfied by a concept caused to exist in the mind by Socrates. Thus, 'Universal (Socrates, confused concept caused by Socrates)' and 'Particular (Socrates, distinct concept caused by Socrates)' would be no more contradictory than 'Taller (Plato, Aristotle)' and 'Shorter

(Plato, Socrates)' are. Further, if 'universal' and 'particular' are so construed, a good sense can be given to the claim that "the universal and particular are really the same thing (*res*) and differ only according to reason":[131] viz., that 'Universal (..., α, where α is a concept caused by...)' and 'Particular (..., β, where β is a concept caused by...)' can be true of one and the same thing, provided that appropriately different concepts caused by that thing are substituted in the second argument place of each predicate. No doubt, Ockham would regard this move to transform 'universal' and 'particular' into two-place predicates as perverse. He would think it better to admit that one and the same real thing, viz., Socrates, genuinely satisfies a confused concept and a distinct concept caused by him, and to make 'universal' a one-place predicate satisfied by the confused concept, and 'particular' a one-place predicate satisfied by the real thing. But to reject Henry's way of talking as misleading, is not to convict him of a mistaken ontology. And it is clear that he and Ockham are in complete agreement about what things there are.

## 9. SUMMARY

Ockham's discussion of moderate realism thus turns out to be a battle of conflicting intuitions about identity and distinction in which the opposing sides are forced to expose their war machinery and there are a few casualties but no clear winners. Ockham's arsenal is stocked with three main weapons. First, there is the notion, which he mobilizes against the first view, that the existence of any particular of a given species is logically independent of the existence of any other particular of that species. And accessory to it is the insistence that no particular has anything common or universal as one of its constituents. This picture has considerable appeal, but it has to face the opposition picture of all the particulars of a given species as bound together by a common component or some sort of real unity of

131. *Ibid.*, (OTh II, 229).

nature. Second, there is Ockham's fundamental conviction that nothing can individuate or be individuated by anything extrinsic to itself. Ockham wields this principle against the contentions of Scotus and adherents of the second opinion that the nature is individuated and numerically multiplied by contracting differences that are formally or really distinct from it; and in general against claims that there is a distinction of reason between the nature and individual differences, even though the latter are really the same thing. This claim seems effective against the second opinion, but by itself has no more fire power than Scotus's contrasting intuitions about individuation. And in the end it does not really seem relevant to Henry of Harclay's position. Finally, Ockham thinks his really invincible weapon is the principle that it is impossible for contradictories to be simultaneously true about one and the same being—that, in effect, the Indiscernibility of Identicals is the criterion of distinction for real beings. He contends that all of the views he discusses run counter to this principle in one way or another. Surprisingly, he is most successful in making this charge stick against one of his most distinguished opponents, viz., Scotus. Most of the others are more imaginative than Ockham fully appreciates in circumventing violations of this principle. For when contradictories seem to be asserted about one and the same real being, there are two ways to show that this is not the case. One is to argue that while the properties are genuinely contradictory, they are not predicated about one and the same real being. Scotus makes this move with his first version of the formal distinction, which Ockham shows to be unacceptable. Alternatively, one can maintain that while the predications are made about one and the same real being, they are not genuinely contradictory. This can be done by inserting adverbial phrases into the predication statements which function either analogously to modal operators or serve to relativize the predications. This strategy is implicitly in the first opinion and is explicitly employed by the last two views discussed by Ockham; it would also be required for a full development of Scotus's view. As Ockham sees it, the first approach fails because it requires more troops than a correct ontology will

nake available. And his failure to envision the second in this ontext partially explains his eventual abandonment of his own tance, that in addition to real beings, there are beings that have non-real mode of existence as objects of thought. It is this opic that we must consider in detail in the next two chapters.

# 3

# Names and Concepts

Ockham identifies universals with universal names and denies that there are any universal things other than universal names. In this chapter, I shall try to arrive at a more precise understanding of Ockham's nominalism by asking what sorts of names he thinks there are and what sorts of things names are.

## 1. THREE KINDS OF NAMES

Ockham adopts the traditional distinction, stated in Boethius but inspired by Aristotle's remarks in *On Interpretation*, chapter 1, 16a1–8, among three kinds of names: spoken, written, and mental.[1] Spoken and written signs are conventional signs; but mental signs, which belong neither to Greek nor to Latin nor to any other conventional language,[2] are natural signs. According to Ockham, conventional signs neither signify, nor signify precisely what they signify, of themselves, but rather "by voluntary imposition." And their signification could change, or they could cease to be significant "at the pleasure of the language users."[3] Natural signification, by contrast, does not depend upon voluntary institution, nor does it change at the pleasure of anyone.[4]

Ockham's doctrine of natural signification is interesting and complex and will be the center of attention in the next chapter. The issue of what it is to signify by convention, a subject of lively contemporary debate, is not one on which Ockham dwells at

1. *Summa logicae* I, c.1, (OPh I, 7); *Ord.* I, d.2, q.4, (OTh II, 134–36).
2. *Summa logicae* I, c.1, (OPh I, 7); *Quodl.* I, q.6, (OTh IX, 37).
3. *Summa logicae* I, c.1, (OPh I, 8).
4. *Ibid.*

any length. No doubt when he says that spoken and written signs have their signification "by voluntary imposition" or "at the pleasure of" the language users, he wants to emphasize first that there is or need be no logically or causally necessary connection between a given set of sounds or inscriptions that serve as linguistic signs and the things they signify, and second that it is the habits of the linguistic community that establish the conventional connection between sound-types and inscription-types and the thing signified. The former is attested to by the existence of different conventional languages that use different sound-types and inscription-types to signify the same things; the latter by the fact that such sound-types and inscription-types sometimes change their significance or lose it altogether as the habits of the linguistic community change or the linguistic community dies out.

What is the nature of the convention by virtue of which spoken and written signs signify anything? According to Ockham, a conventional relation is first established between spoken sounds and concepts—which he alternatively refers to as "intentions" or "affections" (*passiones*) of the mind—and then between written inscriptions and spoken sounds. Like most of his predecessors since Boethius, Ockham quotes with approval the Aristotelian formula that spoken sounds are "notes" of concepts and written marks are "notes" of spoken sounds.[5] But where Boethius and Aquinas had understood this to mean that words such as 'man' signify concepts primarily and things only secondarily, Ockham follows the construal of Duns Scotus and Walter Burleigh: that words signify things directly.[6]

> ...Spoken sounds and written marks are ordered signs and signify all of their significata immediately. But they are ordered in such a way that a written sign signifies whatever a spoken sound signifies; and if the spoken sound were to change its significatum, the written sign will also

5. *Ibid.*, (OPh I, 7–8); cf. *Expos. Periherm.* I, Prooemium, (OPh II, 347).

6. See Armand Maurer, "William of Ockham on Language and Reality," read at the sixth international congress of the Société Internationale pour L'Étude de la Philosophie Médiévale, September 2, 1977.

> change, and not vice versa. And a spoken sound signifies whatever a concept signifies, and if the concept were to change its significatum, the spoken sound would change its significatum, but not vice versa. For a concept naturally signifies the things of which it is predicated, but spoken sound and written signs signify conventionally.[7]

Just as the concept 'man' signifies things, so the spoken and written signs also signify things. Nevertheless, since what spoken and written signs signify is defined in terms of what concepts signify, concepts are said to be terms or words primarily and conventional signs secondarily.[8] Similarly, since propositions are complexes of terms, mental propositions are the primary propositions; spoken and written propositions the secondary ones. And in general, it is the naturally significant mental language, not conventional spoken and written language, that is the primary language.

## 2. THE ONTOLOGICAL STATUS OF CONCEPTS

Since Ockham identifies universals primarily with naturally significant names or concepts, it is perhaps less misleading to say that he was a conceptualist rather than a nominalist about universals. And to understand fully what ontological status he assigns to universals, it is necessary to investigate what he thinks concepts are.

So far as we can tell from his writings,[9] Ockham changed his

7. *Rep.* III, q.10, (OTh VI, 346); cf. *Ord.* I, d.2, q.4, (OTh II, 140) and *Summa logicae* I, c.1, (OPh I, 8).

8. *Ibid.*, c.12, (OPh I, 41); *Expos. Periherm.* I, Prooemium, (OPh II, 347).

9. It has been pointed out to me by Fr. Gedeon Gál that the latest works in which Ockham discusses this issue—the *Quodlibeta* and the *Quaestiones in libros Physicorum*—are records of actual debates. And it is conceivable that in the course of such exercises, Ockham should have defended an opinion or made use of an argument to which he would not have given his wholehearted endorsement. Thus, Ockham's attacks on the objective-existence theory and defense of the mental-act theory in these works do not provide conclusive evidence that Ockham ever gave the mental-act theory his full support. On the other side, it should be noted that in these questions

mind about the ontological status of concepts.[10] He began by holding that concepts have a non-real mode of existence as objects of thought. (I shall label this the "objective-existence theory," because Ockham usually dubs the non-real mode of ex-

as we have them, Ockham consistently adopts a favorable attitude towards the mental-act theory and a negative to derogatory attitude towards the objective-existence theory.

10. Ockham's progressive changes of mind have been traced by Boehner, who found them an important tool for dating Ockham's works (see "The Relative Date of Ockham's Commentary on the Sentences," *Collected Articles on Ockham*, #9, 96–110, and "The Realistic Conceptualism of William Ockham," *Collected Articles on Ockham*, #13, 168–174), and by Gál (see "Gualteri de Chatton et Guillelmi de Ockham Controversia de Natura Conceptus Universalis," *Franciscan Studies* N.S. XXVII (1967): 191–212, especially 192–99). Some corrections in Boehner's chronology have been suggested by Gordon Leff in his book *William of Ockham: The Metamorphosis of Scholastic Discourse*, (Manchester, 1975), chap.2, 78–94. Briefly, their conclusions are as follows: When Ockham first commented on the *Sentences*, he held the objective-existence theory to the exclusion of any others. The text of Books II–IV (the *Reportatio*), which Ockham never revised for publication, dates from this period. When he made his first revision of Book I, d.2, q.8, (OTh II, 266–289), he acknowledged the mental-act theory as not utterly improbable, but still preferred the objective-existence theory. In his *Expositio in librum Perihermenias Aristotelis*, Ockham allows the objective-existence theory and the theory that concepts are real mental qualities as alike defensible (I, Prooemium, (OPh II, 363–64) and (OPh II, 371)), and in an added section declares the mental-act theory to be the most probable of the mental-quality theories and shows at length how it could deal with objections raised against it (OPh II, 363–69). At some point after this but probably before he made his final revision of Book I, d.2, q.8, Ockham inserted at Book I, d.27, q.3, a lengthy critique of a similar theory held by Peter Aureol (see sections 5 and 6 below). Ockham's final changes in the first book of his *Commentary on the Sentences* (the *Ordinatio*) regard the objective-existence theory and the mental-quality theory as equally defensible. In the *Summa logicae* I, c.12, Ockham notes that the principle of parsimony favors the mental-act theory over the view that mental signs are ficta or mental qualities distinct from acts of understanding (OPh I, 42–43). And where relevant he mentions what a mental-quality or mental-act theorist would say, omitting the objective-existence theory from further consideration, (c.14, (OPh I, 48); c.15, (OPh I, 53); c.40, (OPh I, 113)). Finally, in the *Quodlibeta* and the *Quaestiones in libros Physicorum*, he explicitly attacks the objective-existence theory as mistaken, thereby sustaining his endorsement of the mental-act theory in these works.

istence "objective existence." Early on, he came to believe it equally probable that concepts were some kind of really existent mental qualities. Partly because of his own contemporary and fellow Franciscan Walter Chatton, Ockham eventually abandoned the objective-existence theory in favor of the view that concepts are really existent acts of intellect (*intellectiones*) (hence labelled the "mental-act theory"). Since these theories involve rather different ontologies, Ockham's change of mind may be viewed as a reasoned ontological conversion.

In what follows, I shall begin by considering Ockham's arguments in favor of the objective-existence theory. His reasons for changing his mind—of which we shall examine four—represent a surprising mixture of insight and confusion. By the end of chapter 4, I think it will appear that Ockham weighed the disadvantages of the objective-existence theory more carefully than the consequences of the mental-act theory and in fact had better reason to abandon the former than to adopt the latter.

## 3. THE DISTINCTION BETWEEN OBJECTIVE AND REAL EXISTENCE

Ockham's first view is that concepts have, not real existence, but have a non-real mode of existence as objects of thought. His arguments for distinguishing a kind of existence distinct from real existence rest on the observation that we are able to think of three kinds of things that do not and/or cannot really exist. (i) First, we think of things as having contradictory properties. Ockham's examples are chimeras and goat stags,[11] but the round square might strike the modern reader as a better case. (ii) Other things, not thought of as having contradictory properties, nevertheless are not the kind of thing that can really exist. For Ockham, these include the objects of logic: propositions and

11. *Ord.* I, d.2, q.8, (OTh II, 273); *Expos. Periherm.* I, Prooemium, (OPh II, 364).

syllogisms,[12] relations of reason—such as that of being the subject or the predicate of a proposition—which are produced by some mental act of comparison,[13] and universals.[14] (iii) Finally, there are things that can exist but in fact do not. Ockham mentions creatures thought of by God prior to their creation and merely possible creatures that God eternally thinks of but never makes.[15]

Ockham assumes that whatever is thought of must have some sort of ontological status. When we think of something that really exists, its ontological status is straightforward. What about things we think of that do not and/or cannot really exist? Ockham insists that even these must be something that is not nothing. Otherwise, we would be thinking of nothing.[16] Ockham says that such unreal objects of thought have "objective,"[17] "intensional," or "cognized" existence,[18] as opposed to "subjective" or real existence.

Ockham's reasoning could thus be formulated as follows.

1. We think of objects of sorts (i)–(iii).

2. If we think of something, it has some sort of existence

12. *Ord.* I, d.2, q.8, (OTh II, 273); *Expos. Perlherm.* I, Prooemium, (OPh II, 369).

13. *Ord.* I, d.2, q.8, (OTh II, 274).

14. *Expos. Periherm.* I, Prooemium, (OPh II, 369).

15. *Ord.* I, d.2, q.8, (OTh II, 274, 283); d.35, q.5, (OTh IV, 491–92); d.38, q.1, (OTh IV, 585, 587); *De praedest.* q.2, a.4, (OPh II, 529–530).

16. Thus, in *Expositio in librum Perihermenias Aristotelis* I, Prooemium, (OPh II, 352–53), Ockham begins an argument against the mental-act theory in favor of the objective-existence theory as follows: "First, take the common or confused intention that corresponds to the token sound 'man' or 'animal'. I ask whether something is understood by that cognition or nothing? It cannot be said that nothing is. For just as it is impossible that there be an act of seeing and nothing seen or that there be a desire and nothing desired, so also it is impossible that there should be a cognition and nothing be cognized by that cognition..." Cf. *Ord.* I, d.2, q.8, (OTh II, 268, lines 7–13).

17. *Ord.* I, d.2, q.8, (OTh II, 271–74).

18. *Expos. Periherm.* I, Prooemium, (OPh II, 370).

—viz., either objective existence or real existence.

3. Objects of sorts (i)–(iii) do not and/or cannot really exist.

4. Therefore, objects of sorts (i)–(iii) have objective existence.

5. Mental acts, mental qualities, and the mind itself really exist.

6. Therefore, objects of sorts (i)–(iii) are distinct from mental acts, mental qualitites, and the mind itself.

2 is presumably regarded as a necessary truth. And the conclusion in 6 indicates an analysis of what goes on when we think of something unreal into two components: the really existent mental act and the objectively existent object.

Once one has arrived at such an analysis, it is natural to extend it to thoughts about real things, so that really existent things also have objective existence when they are thought of. And while Ockham does not explicitly do so in passages where he is arguing for the distinction between objective and subjective existence, there is some textual evidence that he took such an extension for granted when he first commented on the *Sentences*. (a) The clearest indication comes in his remarks about God's awareness of creatures, where he implies that creatures have objective existence in God's mind even when they are real. For he says that the "ideas" of all creatures are "eternally and immutably understood by God."[19] And he has previously identified divine ideas with the creatures themselves *insofar as they have objective existence in the divine mind*.[20] It seems to follow that all creatures have objective existence in the divine mind eternally and immutably, even though some of them are real at times. And since there is no theoretical reason

19. *Ord.* I, d.35, q.5, (OTh IV, 497–98); cf. Part Five, chapter 24 below.
20. *Ibid.*, (OTh IV, 493).

why God's awareness should differ from creatures' in this respect, this is some reason to think that Ockham's objective-existence theory applied to all thoughts. (b) Further evidence comes in Ockham's reference to an intuitive cognition of a particular as an awareness of *a term* in a contingent proposition about that particular. Ockham never thought that particulars—other than conventional signs (and on the mental-act theory) mental qualities—could, insofar as they existed in reality, be a term in a proposition. If, when he held the objective-existence theory, he thought that particulars such as Socrates, this whiteness, or this body, could be the terms of propositions, it must have been because he supposed them to have objective existence. And since intuitive cognitions cannot be produced naturally unless the object really exists, he must have thought that the objects of such cognitions have objective existence even when they really exist (see Part Three, chapter 13 below).

Contemporary philosophers may be struck by the similarity between Ockham's view and those generally ascribed to Alexius Meinong. They would be even more similar if Ockham had said that what has objective existence has it independently of whether it is ever thought of. In fact, he says the opposite. He claims that things that have "only objective existence" are such that "their to be is to be known or cognized."[21] Thus '$x$ has objective existence' entails 'Someone is thinking of $x$' or 'An act of thinking of $x$ really exists'. This does not necessarily mean that the objective existence of things is interrupted, however. For Ockham seems to imply that everything—actual, possible, or impossible—has objective existence eternally and immutably in the mind of God.[22]

Conclusions 4 and 6 distinguish two elements involved in our thought of nonexistents: really existent mental acts or qualities of mind, and objects that have objective existence (in Meinong's terminology, subsist or have *Aussersein*). Presumably, there is

21. *Ibid.*, d.2, q.8, (OTh II, 273); *Expos. Periherm.* I, Prooemium, (OPh II, 359).

22. *Ord.* I, d.38, q.1, (OTh IV, 587); cf. d.35, q.5, (OTh IV, 479).

also a relation between them, which Ockham (see Part One, chapter 7 below) and Meinong agree is not any real thing.[23] Is anything else involved? Meinong thinks that there must be, even though most of the time we are not aware of anything else in our experience.[24] Otherwise there would be nothing in what really exists to account for the fact that acts of thought are directed towards one object rather than another. It would be purely contingent that such relations held at all and held between a given object and a particular mental act. Unwilling to accept this consequence, Meinong supposes that there is some real feature of an act of thought that necessarily directs it to its object. He calls such features "contents."

Does Ockham posit anything analogous to Meinong's contents? His older contemporary Peter Aureol does in defending a theory similar to Ockham's. Ockham quotes him as offering the following argument:

> ...An act of intellect is very similar to the thing it is about. Therefore, through this likeness either the thing seizes some existence, or it is merely denominated. But it cannot be said that it is merely denominated, so that the existence in the intellect is a certain denomination, just as Caesar depicted is denominated by a picture; for through this denomination Caesar is not present to the picture, nor is he an object for it, nor does he appear to it. Therefore, it is necessary to say that the thing seizes a certain existence through the act of understanding insofar as [that act] is very similar to the thing, so that understood existence is not a mere denomination, but a certain diminished intensional or apparent existence...[25]

Aureol's idea is that the act of intellect is a likeness of the thing and this similarity of the act to the thing "produces" the thing in intensional existence and presumably directs the act towards the object thus produced. Ockham does not like to speak of a

23. Findlay, *Meinong's Theory of Objects and Values*, (London, 1963), chap.1, 35.

24. "Über Gegenstande höhere Ordnung und ihr Verhältnis zur Innern Wahrnehmung," quoted in J. N. Findlay, *op. cit.*, chap. 1, 22; cf. 22–32.

25. *Ord.* I, d.27, q.3, (OTh IV, 235).

thing's being *produced* in objective existence (see Part Five, chapter 24 below). But there is some hint that when Ockham first held the objective-existence theory, he agreed with Aureol that the similarity of an act towards a thing is in part what directs the act towards its object and towards one object rather than the other. In *Reportatio* II, q.12–13, Ockham considers an objection based on the postulate of Greek epistemology that "all knowledge is by assimilation."[26] It is observed that every mental act or cognition is equally similar to numerically distinct particulars. And the conclusion is drawn that we never have a cognition that is proper to one particular alone. Ockham replies that the similarity of the act to the thing will not suffice by itself, but one must add in the fact that the act is caused or apt to be caused to exist by one of the particulars and not the others. In taking the objection to be relevant and replying as he does, Ockham implies that a mental act's similarity to and actual or possible causal connection with a thing is what directs it towards one objectively existent object rather than another. For the objective-existence theory, a cognition will be proper to one particular alone provided it is directed towards that particular in objective existence and that particular alone. Any observation about how similar the mental act is or is not to the particular would seem to be irrelevant, unless the similarity of the act to the thing is thought to play a role in directing the act towards one objective existent rather than another. Hence, he seems to allow these features of an act to fill the role of Meinongian contents.[27]

Ockham clearly takes the objective-existence theory to have an "ontological commitment" to unreal entities. Perhaps the notion of an ontological commitment calls for some explanation. For Quine, a theory has an ontological commitment to the entities that must be taken to be the values of the individual variables if the theory is to be true. And a philosopher

26. (OTh V, 287).

27. For a fuller discussion of what makes an act of thought to be a cognition of one particular rather than another, see Part One, chapter 4 below.

has an ontological commitment to those entities, if he accepts the theory. An analogous account is available within Ockham's logic: for Ockham, we may say, a theory has an ontological commitment to entities of a certain sort if, in order for the theory to be true, a term must be taken to supposit or stand for such entities in a proposition included in the theory.[28] Thus, the objective-existence theory has an ontological commitment to really existent particular men and animals because the terms 'man' and 'animal' stand for such things in the proposition 'A man is an animal'. Likewise, it has an ontological commitment to objectively existent entities. For according to it, the proposition 'Man is a species' cannot be true unless both the term 'man' and the term 'species' supposit or stand for the objectively existent universal man.

Nevertheless, a philosopher might make use of a theory that had an ontological commitment to entities in the sense just explained, while holding the metaphysical belief that they are reducible to something else. For instance, a phenomenalist might make use of a system in which terms are allowed to stand in a proposition for physical objects, even though he holds the metaphysical belief that physical objects are ultimately reducible to perceptions or sense data. And he might or might not hold that it is in principle possible to formulate a language whose terms can stand in a proposition only for sense data. Did Ockham, while he held the objective-existence theory, believe that objective existents are somehow reducible to real existents?

Although he does not explicitly address himself to this issue, I think it is pretty clear that he did not. I think the only reduction it is plausible to see him envisioning would be one that identifies the objective existence of a thing with the real existence of a mental act with a certain content. After all, he does appear to think that a statement of the form '*x* has objective existence' entails and is entailed by the statement that a mental act with a certain content really exists. Since objectively existent entities are

28. For a detailed discussion of Ockham's supposition theory, see Part Two, chapters 10–11.

the immediate objects of thought, according to the objective-existence theory, this would be tantamount to identifying the immediate object of thought with an act of intellect with a certain content. That Ockham would not accept such a reduction, is implied by an argument he offers against the mental-act theory. He argues that every act of understanding must have an object, even when it is a thought of a universal that cannot really exist, since otherwise our thought would be a thought of nothing. But he says that the object of thought cannot be identified with the act of intellect, because then the act of intellect would be an act of understanding itself—which he finds absurd.[29] If he had envisioned any other sort of reduction of objectively existent entities to acts of intellect, fairness to the mental-act theory would have required him to bring it up here.

Further evidence that he does not want to reduce objective existents to the real existence of certain mental acts—or, for that matter, of anything else—comes in an argument he raises against the objective-existence theory itself in *Quodlibeta* IV, q.35. Because God is necessarily conceptually omniscient, endorsing the objective-existence theory would require us to conclude that "from eternity there was a coordinate" of as many objectively existent entities "as there can be of different intelligibles, which were so necessarily existent that God could not destroy them."[30] This consequence was theologically objectionable, because medieval theologians hesitated to say that anything other than God was coeternal with God. (See Part Five, chapter 24 below.) If the objective existence of creatures from eternity were reducible to the real existence of the divine act of cognition from eternity, that would not involve positing anything other than and coeternal with God. That Ockham raised this objection is evidence that he did not envisage such a reduction of the coordinate of objectively existent entities to the real existence of mental acts.

In sum, then, Ockham's objective-existence theory analyses acts of thought into a really existent mental act and an objective-

29. *Expos. Periherm.* I, Prooemium, (OPh II, 353).
30. (OTh IX, 473).

ly existent object. The mental act is thought of as directed towards an objectively existent entity by similarity and/or actual or possible causal relations to the object. And the objective existence of something is not thought of as reducible to the real existence of something else.

## 4. OBJECTIONS TO THE OBJECTIVE-EXISTENCE THEORY

In arguing for the distinction between objective and real existence, Ockham concentrates on our thoughts of things that cannot really exist—whether because they are abstract or because they have contradictory properties. But since premiss 2 is perfectly general, there seems to be no reason why the objective-existence theory should not apply to our thoughts of particulars as well. And we have seen evidence that Ockham does extend the theory in that direction. Nor was he the first philosopher to claim that particulars have a non-real mode of existence as objects of thought. Henry of Harclay (d.1317) suggests such a view in an early question on divine ideas,[31] and Ockham was considerably influenced by this discussion in formulating his own position. By his own account,[32] Ockham was less familiar with the views of another older contemporary, Peter Aureol, who had argued that the objects of sensation—both veridical and illusory—as well as objects of thought have a non-real mode of existence. Apparently, it was partly as a result of examining Aureol's opinion that Ockham became convinced that the objective-existence theory was false as applied to thoughts of particulars. His arguments are set out in a lengthy critique of Aureol which he inserted into the *Ordinatio* at d.27, q.3, probably even before he made the final additions at d.2, q.8,[33] which acknowledged the mental-act theory as equally

31. Edited by Armand Maurer, in "Henry of Harclay's Questions on the Divine Ideas," *Medieval Studies* XXIII (1961): 163–193, at 166–172.

32. *Ord.* I, d.27, q.3, (OTh IV, 238).

33. (OTh II, 289–292).

defensible where thoughts of universals are concerned.[34] And in d.27, q.3 itself, he expresses neutrality between the two theories as applied to thoughts of universals.[35] It was under the influence of criticisms from his contemporary and fellow Franciscan, Walter Chatton, that Ockham eventually abandoned the objective-existence theory altogether in favor of an alternative analysis of what it is to think of something.[36]

In what follows I shall consider four different objections to the objective-existence theory, three of which are actually raised by Ockham and his contemporaries. The first, urged by Ockham against Aureol and by Chatton against them both, together with the second reveal the asymmetry Ockham saw between thoughts of particulars and thoughts of things that cannot really exist. The third set of difficulties takes off from Quine's worries that there would be no criteria of identity and distinction for unreal entities of the sort assumed by the objective-existence theory. The fourth contends that such unreal entities are theoretically superfluous. I shall postpone consideration of a theological objection to Part Five, chapter 24 below.

## 5. THE OBJECTIVE-EXISTENCE THEORY AND DIRECT REALISM IN EPISTEMOLOGY

Ockham was a staunch defender of direct realism in epistemology. In fact, he insists that our mental life *begins* with an immediate awareness of mind-independent particular physical objects (see Part Three, chapter 13 below). If the objective-existence theory conflicted with this, he would have a powerful reason for rejecting it. Yet, Walter Chatton charged that the similar theories of their older contemporaries Henry of

34. Gedeon Gál, *op. cit.*, 196, note 14.

35. (OTh IV, 243).

36. Gedeon Gál demonstrates this influence in his article "Gualteri de Chatton et Guillelmi de Ockham Controversia de Natura Conceptus Universalis." Chatton's arguments are spelled out in his *Reportatio* I, d.3, q.2 and more fully in his *Lectura* I, d.3, q.2. In his article, Gál edits the former with supplementary quotations from the latter.

Harclay and Peter Aureol threatened direct realism in epistemology. Chatton insisted against them "that besides the act of intellect and the mind-independent thing cognized by the intellect, there is no fictional being (*ens fictum*) that is mean and is the immediate term of the act instead of the mind-independent thing..."[37] And in *Quodlibeta* IV, q.35, Ockham turns this criticism against his own earlier view:

> Further, such a *fictum* hinders the cognition of a thing. Therefore, *ficta* should not be assumed to explain cognition. Proof of the premiss: The *fictum* is neither the cognition nor the whiteness beyond the thing cognized nor both together, but some third thing that is a mean between the cognition and the thing. Therefore, if the *fictum* is understood, the mind-independent thing is not understood...[38]

The argument here is puzzling, however. The following two of its premisses are implicit:

1. *Ficta* are always the immediate objects of thought and awareness.

2. If $x$ and $y$ are distinct, then an immediate awareness of $x$ is not an immediate awareness of $y$, and vice versa.

But the third,

3. *Ficta* are not the same either as the act of intellect or the mind-independent thing,

is stated. And from 1–3, we can infer that

4. Mind-independent things are never the immediate objects of our awareness,

which is clearly a denial of direct realism in epistemology. I shall return to 2 later. The appropriate response to 1 and 3

37. *Ibid.*, 203, note 26; cf. 201–203.
38. (OTh IX, 473).

depends upon how the word '*fictum*' is understood. If it is being used here the way it was used by Ockham when he first formulated the objective-existence theory, then it stands only for those objectively existent entities that cannot exist in reality. On this interpretation, 3 is clearly true, but 1 is false on the objective-existence theory. For as long as he was an adherent of the objective-existence theory, Ockham would have held that *ficta* are the immediate objects of thought and awareness in some cases only: viz., when we think (a) of things having incompatible properties, or (b) of abstract objects such as universals, but not when we think (c) of things that can really exist but in fact do not. He explicitly notes that where our thoughts of universals are concerned, these *ficta* do come between us and really existent particulars naturally signified by them. But, as he recognized, this fact presents no challenge to his version of direct realism in epistemology. For the latter theory claims only that we are sometimes—viz., in intuitive cognition and the abstractive cognition that immediately follows it—immediately aware of particulars, not that we *always* are. And according to the objective-existence theory, no *fictum* is the immediate object of thought in intuitive cognition. Rather the objectively existent particular itself, which is identical with the really existent particular, is.[39]

On the other hand, if '*fictum*' is used for any putative entities in a non-real mode of existence, Ockham's objective-existence theory is committed to 1, but not to 3. For the objectively existent entities that are the immediate objects of our awareness in

39. Even in *Ordinatio* I, d.27, q.3, where Ockham has been attacking Aureol's similar theory about our awareness of particulars, principally on the ground that it compromises direct realism, Ockham continued to allow as defensible the opinion that when I conceive of man in general 'only a certain *fictum* common to all particulars' and not any particular is the immediate object of my thought (OTh IV, 242). As we shall see, Ockham ultimately eliminates the *fictum* in these cases too, but on grounds of superfluity. For he comes to see how a mental-act theorist might maintain that conceiving of man in general is not a matter of his having a universal rather than a particular man as the immediate object of thought, but rather a matter of conceiving of particular men in a different way—viz., confusedly rather than distinctly (*Expos. Periherm.* I, Prooemium, (OPh II, 354–55)).

intuitive cognitions, are the particulars themselves. Either way, Ockham's objective-existence theory does not maintain both 1 and 3, and the objection seems to fail because of a false premiss.

Ockham's general arguments against Aureol's similar theory include a different version of this reasoning. Focussing on a veridical visual awareness of whiteness, Ockham argues first that the whiteness and its apparent existence (Aureol's analogue of objective existence) are not really the same.

> ...I ask about the apparent existence in which the whiteness is constituted when the whiteness appears. Either it is really the same as the whiteness, or it is not really the same. If it is said that it is really the same, on the contrary, when some things are really the same, they are simultaneously generated and corrupted, according to the Philosopher in *Metaphysics*, Book IV. Consequently, whenever it should happen that the existence appear, the same whiteness will come into existence. Similarly, whenever some things are really the same, it is impossible that one should exist while the other does not. But this (where the whiteness is indicated) cannot be that (where that apparent existence, which does not exist, is indicated). Otherwise, that apparent existence would exist apart from a vision.[40]

He then assumes, parallel to 2, that

2′. If whiteness and its apparent existence are not really the same, then an immediate awareness of one is not an immediate awareness of the other,

and parallel to 1, that

1′. Apparent existence is always the immediate object of our awareness.

It follows that in the visual awareness in question, we are not immediately aware of the mind-independent particular whiteness, and that its apparent existence would always be a mean between the whiteness and the visual act.

This version of the argument seems even stranger than the first, however. To begin with, it seems inappropriate to ask

40. *Ord.* I, d.27, q.3, (OTh IV, 239).

whether the apparent or objective existence of something is *really* the same as the mind-independent whiteness. For most frequently Ockham uses the terms 'really the same' and 'really distinct' in such a way that it makes sense to say only of real things (*res*). For the whole point of such a theory is to distinguish a non-real from a real mode of existence in such a way that the former is not reducible to the latter. Thus, the existence of a thing in a non-real mode would not be something that occurs in the real mode, but rather in the non-real mode of existence.

In this argument, Ockham seems to depart from his normal usage and, in effect, to allow that the apparent or objective existence of the whiteness really exists if and only if it is true that the whiteness has apparent existence. On this understanding, he correctly reasons that since it is logically possible that the whiteness should really exist when there is no visual awareness of it and hence when its apparent existence does not really exist and vice versa, the whiteness is not really the same as its apparent existence.

The difficulty is that this conclusion is doubly irrelevant to the issue at hand. For the theory under attack will be seen to compromise direct realism in epistemology only if it further endorses 1′—which neither Ockham's nor Aureol's theory explicitly does. Secondly, where 1′ is incorporated into the theory, the question about direct realism will be whether I can be immediately aware of the whiteness, not whether the whiteness can exist in reality without having apparent existence and vice versa. Direct realism will be threatened, only if the answer to the first question is negative. For it seems impossible that I should have the apparent existence of this whiteness—as opposed to the apparent existence in general—as an immediate object of my thought without simultaneously having this whiteness as an immediate object of my thought. If so, 1′ and the supposed real distinction of whiteness and its apparent existence are compatible with direct realism and Ockham's argument fails. Nevertheless, this does not settle the question of whether the objective-existence theory and direct realism are compatible. For we shall see that one way in which the objec-

tive-existence theory might be altered to meet the next objection involves giving up direct realism in epistemology.

## 6. THE OBJECTIVE-EXISTENCE THEORY AND ONTOLOGICAL PARADOX

Not only did Ockham come to see Aureol's theory, as well as his own objective-existence theory, as leading to an incorrect epistemology; he also thought that the general principles used to infer the existence of something in a non-real mode from the fact that someone thinks of or is aware of it, had paradoxical consequences of the sort raised for Anselm's and Descartes's ontological arguments by Gaunilo's perfect-island argument and Caterus's existent-lion objection. Ockham's argument occurs in his critique of Aureol's theory, and to appreciate the objection, it is necessary to have a brief look at what Aureol has to say.

Unlike Ockham, Aureol defends his theory in the first instance by an argument from sensory illusion.[41] He begins with the premiss, familiar from more recent philosophy, that what appears must be *something*, even in sensory illusion. But while some philosophers have since identified what appears with a sense datum and others with a false proposition that appears true, Aureol insists that it is the thing and its properties that appear. And if either or both do not really exist but are merely apparent, then they will have to have a non-real mode of existence. He elaborates this reasoning in connection with eight examples of sensory illusion; but for present purposes it will be enough to consider two. (a) Someone is being carried along the water on a boat. The trees on the shore seem to that person to move. Nevertheless, Aureol supposes, contrary to modern physics, the trees do not really move. Evidently assuming (although not explicitly stating) a principle of the form

(G) If something $x$ seems (some things $x$, $y$ etc. seem) to be $F$,

41. *Scriptum super primum Sententiarum*, (Buytaert ed.); cf. I, d.3, a.1, sec.14, (Buytaert ed., vol.2, 696–98).

> *G*, etc., then that instance (those instances) of *F*-ness, *G*-ness, etc. must be (in some sense),

where 'in motion' is substituted for '*F*' and 'motion' for '*F*-ness' and 'the trees' for '*x*', '*y*', etc., he concludes that since the observed motion does not really exist in the air or in the act of vision, the motion must have some non-real mode of existence, which he variously labels "intensional," "seen," or "adjudged" existence.[42]

(b) A stick is swung rapidly around in the air; a circle appears. Nevertheless, the circle will not be anything real in the stick, because the stick is straight. Nor is it anything real in the air. Nor can it be in the act of vision or in the eye, since the circle appears to be in the air, while the act of vision and the eye are not located there. Tacitly assuming a priniciple of the form

> (H) If something *x* appears (some things *x*, *y*, etc. appear) to be *F*, *G*, etc., then that thing *x* (those things *x*, *y*, etc.), having some sort of existence, is (are) *F*, *G*, etc.,

where 'the circle' is substituted for '*x*' and 'in the air' for '*F*', he concludes that the circle "that has intensional existence or that is in apparent, adjudged, or seen existence, is in the air."[43] Having argued that non-veridical acts of sense perception always posit something in a non-real mode of existence, Aureol extends this conclusion to veridical sensations, acts of imagination, and acts of intellect.[44]

Aureol's arguments from sensory illusion parallel Ockham's about our thoughts of universals and chimeras quite closely. Both argue that unreal objects of cognition must have some mode of existence. And Aureol's principles (G) and (H) seem analogous to Ockham's premiss 2 above. Thus, in raising difficulties with Aureol's principles, Ockham is posing problems for his own theory as well.

Ockham focuses on the first example and challenges Aureol's

42. *Ibid.*, 696, quoted by Ockham in *Ord.* I, d.27, q.3, (OTh IV, 231).
43. *Ibid.*, 696–97.
44. *Ibid.*, 698.

tacitly assumed principles of inference:

> ...'The trees appear to move; therefore some motion appears or has objective existence' no more follows than 'The trees appear to move in reality; therefore, a real motion appears or has objective existence' follows. For the mode of arguing is analogous. But everyone agrees that the second inference does not hold good. Therefore, neither does the first...[45]

Consider the principle instantiated by the first inference:

(J) If something $x$ appears (some things $x$, $y$, etc. appear) to be $F$, $G$, etc., then an instance (those instances) of $F$-ness, $G$-ness, etc. has (have) objective existence.

Ockham says that (J) is equivalent to that employed in the second inference and replaces (G) once Aureol's theory is extended to cover veridical as well as illusory sensations. Ockham's point is that if (J) held good for all substitutions for '$F$', '$G$', '$F$-ness', and '$G$-ness', then—substituting 'really $\phi$' for '$F$' and 'real $\phi$-ness' for '$F$-ness'—we could infer 'Real $\phi$-ness has objective existence' and hence 'Some $\phi$-ness is real' from 'Something seems to be really $\phi$' and thus produce $\phi$-nesses in real existence simply by imagining something as or by having something appear to be really $\phi$—which is absurd.

I think we can get clearer about the structure of Ockham's objection if we apply his reasoning to (H) and its extension

(K) If something $x$ appears (some things $x$, $y$, etc. appear) to be $F$, $G$, etc., then that thing $x$ (those things $x$, $y$, etc.), having objective existence, is (are) $F$, $G$, etc.

Aureol seems to reason that since the circle appears in the air, it has the property of being in the air and is not to be identified with anything, real or unreal, that lacks this property. In contemporary terms, it is as if Aureol were operating with a system whose universe of discourse is neutral between existence in

45. *Ord.* I, d.27, q.3, (OTh IV, 244–45).

reality and existence in a non-real mode and so includes everything that really exists in either or both modes. Within this system, statements of the form '$x$ is $F$' do not, in general, entail statements of the form '$x$ exists in reality', nor do they, in general, entail statements of the form '$x$ has objective existence' but only statements of the form 'Either $x$ exists in reality or $x$ has objective existence'. Given such a system, which allows items in the universe of discourse to exists in two modes, the way is open to relativize the predications to one mode of existence or the other. As indicated in our discussion of moderate realism (see Part One, chapter 2 above), this might be done by regarding such phrases as 'in reality' and 'in objective existence' as analogous to modal operators in having a single argument place satisfied by a proposition. Alternatively, one could construe 'is in motion' and 'is in the air', which appear to be one place predicates, as two place predicates, one of whose places is satisfied by a mode of existence. But it is clear from Aureol's reasoning that he is not exercising either of these options. In Aureol's system, the predications are not relativized to one mode of existence rather than the other, but attach absolutely. Thus, Aureol says that the circle is in the air; he does not say that it is in the air in the mode of objective existence or that it is in the air in the mode of real existence. Aureol's conclusion might be formalized in such a system as follows:

(Ex) ($x$ is a circle & $x$ is in the air & $x$ has objective or apparent existence).

'Is a circle' and 'is in the air' and 'has objective existence' all attach to '$x$' absolutely, not relative to a mode of existence. While statements of the form '$x$ is $F$' do not in general entail statements of the form '$x$ exists in reality' or '$x$ has objective existence', such entailments will hold for some substitutions for '$F$'. For instance, suppose that 'really existent' or 'objectively existent' or 'really existent $\phi$' or 'objectively existent $\phi$' is substituted for '$F$'. Then we will get entailments of real or objective existence, respectively. What Ockham has done, in effect, in dealing with (J) is to understand 'Real motion has objec-

tive existence' to be a statement formalizable in the above described system as

(Ex) ($x$ is motion & $x$ is real & $x$ has objective existence)

—which does, of course, entail that motion really exists. This result is absurd enough, but matters become even worse when we substitute 'really existent chimera' or 'really existent round square' instead. Further, it is easy to see how a similar difficulty would follow from substituting 'really nonexistent $\phi$' for '$F$' in (H) and (K). And if in their analogue for intellectual acts of awareness—

(L) If something $x$ is (some things $x$, $y$, etc. are) thought of as $F$, $G$, etc., then that thing $x$ (those things $x$, $y$, etc.) having objective existence is (are) $F$, $G$, etc.

—we substitute 'lacking in objective existence' for '$F$', it follows that if something is thought of as lacking in objective existence, as it might be by someone actively rejecting the objective-existence theory, that thing both has and lacks objective existence—which is a contradiction.

The latter paradoxical consequences might seem easily averted by simply disallowing 'really existent', 'really existent $\phi$', 'really nonexistent', 'really nonexistent $\phi$', lacking in objective existence' and '$\phi$ lacking in objective existence' etc. as legitimate substitutions for '$F$'. However this move might otherwise fare, it would do nothing to obviate a more general difficulty which arises especially in connection with cases of sensory illusion or intellectual misapprehension in which a really existent particular is perceived or mistakenly thought to have properties that it does not really have. Reconsider the trees that appear to move but do not. From the latter clause, we can infer 'These trees are not in motion'. But (H) entitles us to infer 'These trees are in motion' from the fact that they appear to be in motion. Within the system Aureol seems to be presupposing, both predications are made absolutely and not merely in relation to one or another mode of existence. Thus, (H) together

with the assumption that something appears to have a property that it does not really have, entails a contradiction. Similarly, for (K) and (L).

Although it is perhaps less obvious, the same general difficulty arises for (G) and (J). Substituting 'white dog' for '*F*' and 'white caninity' for '*F*-ness' in (J), we derive 'If something appears to be a white dog, then that particular white caninity has objective existence'. Suppose that what appears to be a white dog is really a brown dog, so that the particular caninity that appears white is brown. Then, given that (J) requires that the same caninity has objective existence and is white as has real existence and is brown, if the predicates are not relativized to modes of existence, we shall have to conclude that the same particular caninity is both white and brown.

The trouble with these principles is that they all specify that the same particulars that appear to have certain properties are the ones that actually have those properties. If this stipulation is combined with the assumption that the predicates attach to their subjects absolutely and not merely in relation to a mode of existence, then sensory illusion and intellectual misapprehension become impossible, since they would involve the same particular in both having and lacking the same properties. And this difficulty will arise no matter what is substituted for '*F*', '*G*', etc., and hence cannot be removed by restricting permissible substitutions.

Short of completely abandoning the theory that the particulars we are aware of or think of have a non-real mode of existence, Aureol could modify his theory in one of two obvious ways. (i) First, he could retain the assumption that predication is not relativized to a mode of existence, but drop the specific requirement in (G)–(L) that the same particulars that exist in reality and have certain properties, have objective or apparent existence and have other, incompatible properties. For example, one could say that when the trees appear to move but do not, the trees that have objective existence and move are not the same particular trees as those that really exist and do not move. If Aureol modified his theory in this way, however, it would fall prey to Ockham's earlier charge that it compromises a direct

realist position in theory of knowledge. If the objectively existent moving trees are not the same particular trees that really exist, then in such cases of sensory illusion and intellectual misapprehension, we are not immediately aware of the real trees.

(ii) Alternatively, Aureol might retain the requirement that the same particulars that really exist and have certain properties, objectively exist and have certain other properties, while providing for predications to be relativized to modes of existence. This approach would involve replacing the above principles with

(M) If something $x$ appears (some things $x$, $y$, etc. appear) to be $F$, $G$, etc., then in some mode of existence, $x$ is ($x$, $y$, etc. are) $F$, $G$, etc.

and its analogue

(N) If something $x$ appears (some things $x$, $y$, etc. appear) to be $F$, $G$, etc., then in the mode of objective existence, that thing $x$ is ($x$, $y$, etc. are) $F$, $G$, etc.

Here 'in the mode of objective existence' functions as a sort of operator on the whole proposition and qualifies the predication by indicating that the predicate attaches to the subject in the mode of objective existence; similarly for 'in reality'. On this scheme, one can say without contradiction of the same particular trees that in reality the trees exist and are not moving, while in the mode of objective existence they exist and are moving. And one can thus account for sensory illusion and intellectual misapprehension without in any way compromising direct realism. Similarly, the substitution of 'really existent' and 'really nonexistent' for '$F$' in these principles can be construed in a non-problematic way. For just as some things are real and others are only imaginary or thought of, so some things are thought of as real and others are thought of as only imaginary. Thus, 'In the mode of objective existence, $x$ really exists' might be construed as logically equivalent to 'In reality, someone thinks of $x$ as really existent' and 'In the mode of objective existence,

*x* does not really exist' to 'In reality, someone thinks of *x* as really nonexistent'. But the former does not entail 'In reality, *x* exists' any more than the latter entails 'In reality, *x* does not exist'. Finally, 'In the mode of objective existence, *x* is lacking in objective existence' will be construed as logically equivalent to the noncontradictory proposition 'In the mode of objective existence, no one is thinking of *x*'.

It would not be necessary to stipulate that all predications within this system must be relativized. In fact, one would wish to allow for some non-relativized predications so that one might assert relations between things that exist in different modes. For the claim that objectively existent things are somehow similar to mind-independent particulars is crucial to a theory of natural signification (see Part One, chapter 4 below).

If Aureol's theory could be rescued in either of these ways, the application of Ockham's objective-existence theory to our awareness of thoughts of particulars could be saved as well. But it is clear that Ockham would reject the first way. And it is equally clear from our discussion in the previous chapter (see Part One, chapter 2, sections (3.2) and 8 above) that he completely overlooks the second way of removing apparent contradictions. In so doing, he passes over the most promising way of developing the objective-existence theory. It is not surprising, therefore, that Ockham finds this objection, together with the others he brings against Aureol, decisive for showing that the objective-existence theory is incorrect as applied to our intuitive and abstractive cognitions of particulars. But since in his view universals cannot exist in reality as well as objectively, neither of the above two objections refutes the objective-existence theory as applied to thoughts of universals.

## 7. A LATTER-DAY OBJECTION

Even if Ockham had replaced (G) and (H) with (M), he would not thereby have guaranteed the objective-existence theory against paradox. For, as he himself contends in criticizing Scotus's formal distinction, an ontology will be seriously defec-

tive if it fails to provide criteria of identity and distinction for real things. In the same way, a theory that posits unreal entities must assure us that such criteria are available for them. In recent times, this challenge has been thrust upon lovers of rich ontologies by W. V. O. Quine in his essay "On What There Is." Quine expresses general suspicion of and scorn for the doctrine that whatever is thought of has some sort of being—if not real, then unreal.

> This is the old Platonic riddle of non-being. Non-being must in some sense be, otherwise what is it that there is not? This tangled doctrine might be nicknamed *Plato's beard*: historically it has proved tough, frequently dulling the edge of Occam's razor.
>
> It is some such line of thought that leads philosophers like McX to impute being where they might otherwise be content to recognize that there is nothing.[46]

Speaking of the subclass of unactualized possibles, Quine charges that the

> ...slum of possibles is a breeding ground for disorderly elements. Take, for instance, the possible fat man in the doorway; and again, the possible bald man in that doorway. Are they the same possible man, or two possible men? How do we decide? How many possible men are there in that doorway? Are there more thin ones than fat ones? How many of them are alike? Or would their being alike make them one? Are no two possible things alike? Is this the same as saying that it is impossible for two things to be alike? Or finally, is the concept of identity inapplicable to unactualized possibles? But what sense can be found in talking of entities which cannot meaningfully be said to be identical with themselves and distinct from one another. These elements are incorrigible. By a Fregean therapy of individual concepts, some effort might be made at rehabilitation; but I feel we'd do better simply to clear Whyman's slum and be done with it.[47]

So far as I know, Ockham does not explicitly consider such an objection against the objective-existence theory. But he would have felt its force, and—so far from being intimidated by Quine's string of rhetorical questions—would have set about

46. *From a Logical Point of View*, (Cambridge, MA, 1953), 1–2.
47. *Ibid.*, 4.

trying to answer them. In fact, in a number of places, Ockham implies that the Indiscernibility of Identicals is a criterion of distinction for beings of reason, just as much as it is for real beings. For he reasons that if *a* is *F* and *b* is not *F*, there are only three alternatives: *a* and *b* are distinct real things; or *a* and *b* are distinct beings of reason; or *a* and *b* are distinct as a real thing and a being of reason. By excluding the possibility that *a* and *b* are the same being of reason, he suggests that it is impossible for one and the same being of reason to have contradictory properties simultaneously, just as for the same real thing to do so. (See Part One, chapter 2 above.)

Now when Quine asks about the bald man and the fat man; it is quite clear that he has ⌜partially indeterminate objects⌝ in mind. And where indeterminate objects are concerned, Ockham can simply say that indeterminate object *a* is identical with indeterminate object *b*, if and only if *a* is determinate with respect to all and only the same properties as *b* is vice versa. By this criterion, when we think of a man, leaving all of his characteristics other than rational mortal animality indeterminate and determinable, the object we have before our minds is distinct from the one we have before it when we think of a man as bald, or think of a man as fat, leaving all of his other characteristics indeterminate and determinable. Similarly, the indeterminate object bald man will be a distinct object from the indeterminate object fat man, because the former is determinate with respect to being bald and indeterminate and determinable with respect to being fat, while the latter is determinate with respect to being fat but indeterminate and determinable with respect to being bald.

Where ⌜unactualized possible particulars⌝ are concerned, Ockham could say that the criteria of identity and distinction for them are the same as those for real particulars. Just as where *a* and *b* are distinct really existent particulars, *a* is distinct from *b* in and of itself and vice versa, so where *a* and *b* are distinct unactualized possible particulars, *a* will be distinct from *b* in and of itself and vice versa. And if the criterion of distinction in the case of real particulars is the Indiscernibility of Identicals, so he could say that the criterion of distinction for unactualized

possible particulars is the Indiscernibility of Identicals.

Turning to Quine's question, "How many *possible* men *are* there in that doorway?" Ockham might reply by distinguishing two interpretations of the question. If he is asking how many men are actually standing in that doorway, then we have our answer simply by counting the number of actual men in that doorway. If, on the other hand, the question asks how many unactualized possible men can stand in that doorway, the answer is surely "each of the unactualized possible men—infinitely many of them." For each possible man is such that it is logically possible that he should be standing in that doorway. Further, each possible man is such that it is logically possible that he should be both fat and standing in that doorway, and logically possible that he should be thin and standing in that doorway. Hence there are not more fat ones than thin ones, but infinitely many of each. Again, when Quine wonders whether two possible men are alike, the reply will depend on what he means by 'alike'. If he means 'alike with respect to all properties, including those of identity and distinction', then Ockham would say with everyone else that no two are alike. For the Identity of Indiscernibles—the principle that for all $x$, $y$, and $F$, if $x$ is $F$ if and only if $y$ is $F$, then $x$ is identical with $y$—is trivially true, if all properties including identity and distinction enter into the comparison. But I know of no evidence that Ockham subscribed to any nontrivial version of the Identity of Indiscernibles. So if Quine means 'alike with respect to all properties that are taken into consideration in a nontrivial formulation of the Identity of Indiscernibles', Ockham would reply that numerically distinct possibles are alike and their being alike does not make them one. Although he does not address himself to the issue of how many possible men would be thus alike, it is difficult to see what reason he would have to specify one finite number rather than another. Perhaps it best accords with this theory to say that infinitely many are.

Nevertheless, Quine's worries cannot be laid to rest quite so easily. For if both indeterminate objects such as man and unactualized possible particulars can be thought of, so indeterminate objects such as round square, chimera, and goat stag can be

thought of. Similarly, particulars such as Socrates can be thought of as having incompatible properties simultaneously. And according to the objective-existence theory, if such things are thought of as having such properties, then in the mode of objective existence they exist and have such properties. Hence, it is incumbent on the objective-existence theory to supply us with criteria of identity and distinction not only for nonexistent possibles, but for beings with incompatible properties as well. And if some beings of reason thus have incompatible properties, it will not be legitimate for Ockham to appeal, as he apparently did, to the Indiscernibility of Identicals as a criterion of distinction between them.

Perhaps Ockham could claim that indeterminate objects involving incompatible properties are individuated in the same way as those that do not. For instance, the indeterminate object round square is a distinct object from the indeterminate object round, because the former is determinate with respect to being square, while the latter is not. Similarly, the indeterminate object round triangle, because the former is determinate with respect to being square and not with respect to being triangular, while the latter is determinate with respect to being triangular but not with respect to being square.

But how will objectively existent particulars be individuated, when some of them have incompatible properties? Perhaps it will be said that if this particular table is distinct from that one, it will be so in and of itself. And this fact is unchanged by the former table's being simultaneously round and square. So the fact that some objectively existent particulars have incompatible properties will pose no further problem for the individuation of such particulars.

Ockham could not have been satisfied with this reply. And in any case it is inadequate. For while 'In objective existence, $x$ is a round square' is not itself contradictory any more than 'It is impossible that something is a round square' is, nevertheless, the statement that falls within the scope of the operator is contradictory. Thus we shall be able to infer that everything obtains within the mode of objective existence: that the moon both is and is not made of green cheese, that Socrates is not

identical with himself, etc.

A different approach would be to reexamine the assumption that '*x* is a round square' is or entails a contradiction. First, consider an affirmative categorical proposition such as '*x* is round' and distinguish its external negation, which is obtained by negating the entire statement—i.e., 'It is not the case that *x* is round'—from its internal negation, which is obtained by negating its predicate—i.e., '*x* is non-round' or '*x* is not-round'. The usual way of showing that '*x* is a round square' entails a contradiction begins with the observation that it entails each of '*x* is round' and '*x* is square'. But '*x* is square' entails '*x* is non-round', which in turn entails 'It is not the case that *x* is round'. Thus, '*x* is a round square' entails '*x* is round and it is not the case that *x* is round'—which is a contradiction. This argument supposes that the internal negation '*x* is non-round' entails the external negation 'It is not the case that *x* is round'. But it may be claimed that this is not necessarily so. For while it is true that what is non-round in reality cannot simultaneously be round in reality, what is non-round in the mode of objective existence may be round as well. Thus, 'In reality, *x* is non-round' entails 'In reality, it is not the case that *x* is round', but 'In objective existence, *x* is non-round' does not entail 'In objective existence, it is not the case that *x* is round'. Consequently, 'In objective existence, *x* is a round square' will not entail the contradictory statement 'In objective existence, *x* is round and it is not the case that *x* is round'. And if not, no violations of the Indiscernibility of Identicals will follow from the objective existence of a round square; nor will we be able to infer that everything is true in the mode of objective existence.

Whatever else may be said about this solution, it will be inadequate by itself because it fails to deal with all of the problematic cases. For just as someone might think of the same object as being simultaneously both round and square, so someone might think of the same object as having the schema '...is round' and 'It is not the case that...is round' simultaneously true of it. No appeals to a distinction between internal and external negation will remove this contradiction. And when we add that God eternally and immutably thinks of everything,

such problematic examples multiply to infinity.

If Ockham had been firmly committed to the objective-existence theory, he might simply have retracted his claim that the Indiscernibility of Identicals applies to beings of reason as well as to real beings. And he could have denied that any of the above mentioned consequences of the objective-existence theory is genuinely problematic. After all, he could remind us that the mode of objective existence was invented to house the impossibles that are thought of but cannot exist in reality. If we allow the objective existence of one impossibility, why should we worry further if there are infinitely many of them? And why should we be surprised if everything is true about the mode of objective existence? Nevertheless, I think it is extremely unlikely that Ockham would, if confronted with such apparent difficulties, have had the courage of the objective-existence theorist's convictions. For, so far as we can tell from his writings, Ockham gave up the objective-existence theory in the face of a much weaker objection raised by Walter Chatton.

## 8. THE OBJECTIVE-EXISTENCE THEORY AND OCKHAM'S RAZOR

Ultimately, Ockham gave up the objective-existence theory—both where thoughts of particulars and thoughts of universals are concerned—because Walter Chatton convinced him that the objective-existence theory violated the principle of parsimony better known now as Ockham's Razor.[48]

Ockham's early expositions of the objective-existence theory make it clear that only what is thought of by someone can have objective existence. But these discussions do not seem to rule out the possibility that two people might have the same objectively existent entity before their minds. That is, nothing Ockham says earlier suggests that the objectively existent entity before my mind is numerically distinct from the one before

48. See Gedeon Gál, *op. cit.*, 191–212.

yours, just because the one is before *my* mind and the other is before *yours*. Instead, when someone objects that if Ockham's theory were true, "then there would be as many universals as intellects," he brushes the issue aside, replying "I do not care for the present whether or not a figment (*figmentum*) or concept is varied as the intellects are varied," so long as my concept and yours are "one through equivalence," i.e., equivalent in signifying.[49] Chatton argues, however, that the theory must make this assumption. For he maintains that if the objective existence of a thing does not logically presuppose the real existence of any act of this kind in particular, then it cannot presuppose the real existence of some act or other of this kind.[50] Chatton's inference is of the form 'This *A* does not logically presuppose this *B*, and so on for each *B*; therefore, this *A* does not logically presuppose the existence of some *B* or other'—which is not in general valid. Nevertheless, Ockham agrees with Chatton and offers the latter's argument as his own in *Quodlibeta* IV, q.35.[51] If objectively existent entity *a* logically presupposes the real existence of my act of intellect and objectively existent *b* logically presupposes the real existence of your act of intellect, then since my mental act can continue to exist when yours ceases and vice versa, it follows that *a* can continue to exist when *b* does not exist and vice versa. The conclusion is that there are two objectively existent entities, just as there are two acts of intellect.

It will be a violation of Ockham's Razor to posit such a coordinate realm of objectively existent entities in addition to really existent acts of intellect, however, only if the former serve no necessary theoretical function. So long as Ockham retains the premiss,

2. If we think of something, then it has some sort of existence—viz., either real existence or objective existence,

49. *Ord.* I, d.2, q.8, (OTh II, 284–85).
50. Gedeon Gál, *op. cit.*, 202, lines 2–12.
51. (OTh IX, 472–73).

objectively existent entities are needed, because we sometimes think of things as having properties that no real things can and/or do have. Further, once the theory is extended to cover thoughts of things that do exist, it is claimed that it is the fact that an act of intellect is directed to an objectively existent entity and to this one rather than that one, which accounts for the fact that it is a thought of something and of this rather than that.

Chatton argues that objectively existent entities are superfluous because they cannot possibly fill the latter theoretical role, while the real things posited by the theory can do so, unassisted by such objectively existent entities. To begin with, he contends that "there is no apparent contradiction in an act of intellect's remaining in existence without any such fictum."[52] Chatton presents the latter, not so much as a consequence of Ockham's theory but as something everyone would agree to. He reasons that if the real existence of an act of intellect is logically independent of every other really existent thing, then a fortiori it must be logically independent of the objective existence of anything. His second premiss is that "it is a contradiction to suppose that there is an act of intellect unless something—namely, its term—is understood."[53] Necessarily, every act of thought has an object. If it is not necessary that an act of thought is directed towards some objectively existent entity (as it cannot be if it is not necessary that some entity have objective existence whenever an act of thought exists), then that the thought is directed towards the objectively existent entity and towards one rather than another, cannot be what accounts for its being a thought of something and of this rather than that. Some alternative explanation must be found.

A devotee of the objective-existence theory would no doubt accept Chatton's second premiss and use the objective-existence theory's analysis of thought to argue that his first premiss is false. By the time Ockham wrote the *Quodlibeta*, however, he had come to endorse Chatton's argument as his own.

52. Gedeon Gál, *op. cit.*, 202, lines 21–22.
53. *Ibid.*, lines 22–24.

Chatton thinks that an adequate analysis of what happens when we think of something can be given in terms of the really existent things admitted by the theory. If we think of a round square or a chimera, it is not necessary that there be (in some sense) anything that is a round square or a chimera. It is enough if a really existing thing has a different property—viz., the property of being of-a-round-square or the property of being of-a-chimera. Thus, Chatton writes,

> ...The mind can imagine (*fingere*) many things, such as a golden mountain, a chimera, etc. But this is nothing other than for it to have an act of understanding by virtue of which I could judge that its nature would be of this sort if it existed, as was said above.[54]

Such properties are no doubt to be identified with those real features of mental acts that Meinong labelled "contents" and that Ockham acknowledges even on the objective-existence theory. And Chatton wants to say that it is just such features that make thoughts to be one thing rather than another. Ockham accepts Chatton's conclusion and—abandoning the distinction between objective and real existence—identifies concepts with really existent acts of intellect.

## 9. SUPERFICIAL OBJECTIONS TO THE MENTAL-ACT THEORY

We will be in a better position to assess the adequacy of the mental-act theory as compared with the objective-existence theory—and hence to say whether the latter really does with more what the former does as well with fewer—after we have examined their respective accounts of natural signification in the next chapter. For now, let us simply note how Ockham explains away some of the more obvious odd consequences of the mental-act theory.

On his new theory, Ockham will be identifying each universal with a really existent mental act. But in creatures at least, a

54. *Ibid.*, 207, lines 25–29.

mental act is a quality and hence an accident inhering in a mental substance.[55] Further, Ockham has insisted that only particulars really exist. Hence, each mental act is particular. It follows that all universals—genera, species, differentia, propria, and accidents—are particular qualities, and therefore that the most generic genus of substance is a particular quality and hence an accident and that the most generic genus quantity is a particular quality, etc. Similarly, being in general will be a particular quality.[56]

These conclusions would seem absurd to philosophers who thought that universals were things other than names. For on their view, genera and species would be universal and be sorted into one of Aristotle's ten categories rather than the other, on the basis of what sort of things they are. If all genera and species are particular qualities, it would seem that they are not universal after all, but particular, and that they are all sorted into the same category—the category of quality.

Ockham, by contrast, is insisting that universals are nothing other than names. And if we identify the primary names (concepts), as well as conventional names, with real things, it will turn out that all universals are particulars. Further, they will all be qualities. But Ockham finds nothing absurd in this, because he thinks that what makes names universal and what sorts them into one category rather than another is not what they *are*, but what and how they *signify*.[57] Thus, 'man' is universal, not because it is not a particular thing, but because it signifies numerically distinct particulars equally in such a way that it signifies one no more than another. And what makes it fall into the category of substance is not that it is itself a substance, but that it signifies only substances. Similarly, the most generic genus substance is, like the most generic genus quality, a particular quality. Nevertheless, the concept

55. *Summa logicae* I, c.17, (OPh I, 58, 60); *Quodl.* V, q.13, (OTh IX, 521).

56. Such objections are raised against all theories that say that the universal is something real in *Ordinatio* I, d.2, q.8, (OTh II, 266).

57. *Ibid.*, (OTh II, 290–91); *Quodl.* V, q.13, (OTh IX, 532–34); *Summa logicae* I, c.13, (OPh I, 45–46).

'substance', with which the genus substance is identified, does not fall into the category of quality, because it does not signify qualities but signifies only substances. As we shall see in succeeding chapters, this shift of attention from what universals are to what and how they signify, is of crucial importance in Ockham's attempts to show that all that really exists are particular substances and particular qualities.

# 4

# Universals, Conventionalism, and Similarity

Whenever the nominalist-conceptualist thesis—that only names or concepts are universal, while every mind-independent thing is particular—is advanced, some see in it the seeds of metaphysical disaster. Boethius had charged that if it were true, our ideas of genera and species would be "vain and false." His argument had rested on the assumption that an idea stands for something only if the latter is exactly as the former represents it to be, from which it follows that ideas of genera and species can signify only universals. If there were no universal things, as Ockham claims, then such ideas and the corresponding conventional names would be empty—which they plainly are not. Nominalists-conceptualists easily disposed of Boethius's objection, however, charging that it rested on an overly narrow conception of representation, rejected by many realists as well.

More subtle is the contention that if there are no universal things corresponding to general terms, then which concepts count as genus- and species-concepts, and which particulars count as co-generic and co-specific will be arbitrary and subjective. The argument runs as follows:

1. No distinct universal things correspond to abstract general concepts $C_i$–$C_n$.

2. Therefore, which concepts count as generic and specific depends in part on human convention. (1)

3. Convention or use depends on contingent human free choices.

4. What depends on contingent human free choices is arbitrary and subjective.

5. Therefore, which concepts count as generic and specific is arbitrary and subjective. (2, 3, and 4)

6. Therefore, the fact that certain particulars are co-generic and co-specific is arbitrary and subjective. (5)

Ockham rejects each of the conclusions in 2, 5, and 6. Citing the possible position that

> nothing is universal of its very nature, because nothing of its very nature supposits for or is truly predicated of another thing—e.g., a spoken word is not—but only by voluntary conventions...[1]

his review is cryptic and negative. He says that if it were true, "then nothing would be a species or genus of its very nature"[2] —a conclusion that Ockham is unable to swallow.

Ockham's view is that neither the extension of general concepts such as 'animal' or 'man' nor the co-specificity of particulars is arbitrary and subjective, because both can be accounted for in terms of similarity. Opponents who regard the above argument as decisive beg the question against the nominalist-conceptualist by denying him access to widely agreed upon theorems about similarity. In what follows, I shall look briefly at what Ockham has to say about similarity and use it to explain his account of co-specificity. Then I shall examine his doctrine of the natural signification of such concepts both from the viewpoint of the objective-existence and that of the mental-act theory. My provisional conclusion will be that Ockham's theory is inadequate, but for reasons that tell as much against his moderate realist opponents as against him. His success in rejecting step 2 of their objection ultimately depends on whether or not he can consistently maintain that similarity relations are not arbitrary and subjective. In my opinion and

1. *Ord.* I, d.2, q.8, (OTh II, 271).
2. *Ibid.*

Ockham's his views about universals by themselves pose no insurmountable obstacles. But a final verdict on this issue will have to wait until chapter 9 below.

## 1. OCKHAM ON THE NATURE OF SIMILARITY

Ockham insists that to deny that universals or common natures are anything other than names or concepts is not to be saddled with the conclusion that similarity relations are arbitrary and subjective. (1.1) ***Similarity and Common Nature.*** Moderate realists and nominalists-conceptualists divide over Boethius's assumption that similarity is always founded on some kind of unity. The former hold with Boethius that the similarity of $x$ and $y$ is to be metaphysically analysed in terms of their having a metaphysical constituent in common. Ockham accuses Burleigh's version of implying that Socrates and Plato are similar in being human because numerically the same human nature exists in both, while Scotus says that human nature existing in Socrates and Plato has a real unity less than numerical unity (see chapter 2 above). Having argued that moderate realism inevitably leads to contradiction and other absurdities, Ockham, like any nominalist-conceptualist, is compelled to reject this analysis. Replying to Scotus's argument that since Socrates and Plato really agree more than Socrates and a donkey do, "Socrates and Plato agree in something real in which Socrates and a donkey do not really agree," Ockham replies that they do not literally speaking agree *in* any thing or things but rather agree in and of themselves (*seipsis*).[3] Thus, similarity is a two term relation between two things and not a three term relation between two things and a common nature. Of course, Ockham would be willing to accomodate ordinary-language as well as some philosophical tendencies to speak of similarity as similarity *in* something. For example, we may say that a blue square patch resembles a blue circular patch in color but not in shape, or that Socrates and Brownie the donkey resemble each

3. *Ibid.*, q.6, (OTh II, 211–12).

other in being animals but not in being rational, while Socrates and Plato resemble each other in being man. But, like all nominalists-conceptualists, Ockham would understand the phrase 'in shape' or 'in being animals' to be referentially opaque, adverbial modifiers of 'resemble' or 'similar'. Just as 'shape' is a genus term relative to 'square' and 'circular', so 'similar' is to 'shape-wise similar' and 'animal-wise similar'. So construed, these statements involve no reference to a metaphysical constituent common to the relata.

Nevertheless, Ockham does not see how it is supposed to follow from the mere fact that a relation is primitive and two termed that it is arbitrary and subjective. (1.2) *Not Arbitrary.* According to Ockham, similarity is what Duns Scotus labelled an "intrinsic relation": i.e., one such that the existence of its relata is logically sufficient for the relation to obtain. Thus, Ockham writes, "God cannot produce two white things without producing two similar things, because the similarity is the two white things themselves."[4] Since God is omnipotent, He could make two white things without their being similar if this were logically possible. Identity and distinction are likewise relations of this type.[5] For anything $x$ is identical with itself, and it is logically impossible for $x$ to exist and not be identical with itself. Again, if $x$ and $y$ are numerically distinct, it is logically impossible that $x$ and $y$ should exist and not be numerically distinct (where substitutions for '$x$' and '$y$' are proper names or rigid designators). Thus, given the relata, such intrinsic relations obtain, not only independently of the human will, but of the divine will as well; they are thus not arbitrary in any straightforward way.

(1.3) *Not Subjective.* Ockham insists that similarity is a real relation. According to him (see chapter 7 below), to say that a relation $R$ is a real relation is not to imply that $R$-ness is a thing (*res*) really distinct from and inhering in its relata. Rather he maintains that

4. *Rep.* II, q.1, (OTh V, 9); cf. q.2, (OTh V, 35).
5. *Ibid.*, (OTh V, 39).

(T1) *R* is a real relation if and only if given the existence of *x* and *y*, *x* and *y* can be *R*-wise related apart from any activity of the intellect comparing and contrasting them,[6]

and thus regards such intellectual activity as neither necessary nor sufficient for a real relation to hold between two things. By contrast, Ockham will say that

(T2) *R* is a relation of reason if and only if given the existence of *x* and *y*, *x* and *y* are *R*-wise related if and only if some activity of the intellect thus relates them[7]

so that such intellectual activity is both necessary and sufficient for a relation of reason to obtain.

Ockham finds the notion that similarity is a relation of reason absurd. He writes,

> ...Similarity is called a real relation because of the fact that one white thing, *by the nature of the thing*, is similar to another white thing, and the intellect no more brings this about than it brings it about that Socrates is white and Plato is white.[8]

On the other hand, if the intellect's activity of comparing them and finding them similar were sufficient for a relation of similarity to hold, then the intellect could never be mistaken about the similarity of things—which is absurd.[9]

Nor does Ockham take back this claim when from time to time he allows that Socrates and Plato agree in the concept 'man'. For he does not intend thereby to replace the moderate realists' *analysis* of '*x* is similar to *y* ' by '*x* and *y* have the same metaphysical constituent in common' with '*x* and *y* are apt to be signified by some common concept *C* '. Given his account of natural signification in terms of similarity (see section 3 below),

6. *Ord.* I, d.30, q.5, (OTh IV, 385).
7. *Ibid.*
8. *Ibid.*
9. This sort of argument is offered for the claim that creation is not a relation of reason in *ibid.*, (OTh IV, 382–84).

an analysis of similarity in terms of natural signification would be circular. Ockham would deny that the similarity of Socrates to Plato any more *consists in* their similarity to a concept than the similarity of Socrates to the common concept 'man' is shorthand "for 'man' is a certain common [concept] that can be predicated of Socrates and Plato."[10] That is, if $x$ and $y$ are similar, $x$ and $y$ can be signified by a common concept $C$, should $C$ exist. And where concepts such as 'man' are concerned, the fact that Socrates and Plato can be signified by it depends on features they have quite apart from any activity of the intellect. Thus, so far as the logic of 'similarity' is concerned, Ockham adheres to his contention that similarity is a two term real relation and hence not subjective in a straightforward sense.

(1.4) *Similarity Comes in Degrees.* It might be objected that similarity cannot explain the extension of genus- or species-concepts or be what makes certain particulars co-generic or co-specific, because everything is trivially similar to everything else. Take any two things $x$ and $y$. Suppose $x$ has the property $F$ and $y$ has the property $G$. Then even if $y$ is not $F$ and $x$ is not $G$, $x$ and $y$ will have some property in common—viz., the disjunctive property of being either-$F$-or-$G$. Since $x$ and $y$ are any individuals you like, and $F$ and $G$ any properties you like, it follows that everything is somehow similar to everything else. Yet, it is not the case that everything is co-generic or co-specific with everything else, nor do genus- and species-concepts signify anything and everything.

So far as I know, Ockham never explicitly considers the above argument that everything is trivially similar to everything else. But it is clear that when he and his contemporaries spoke of genus- and species-concepts signifying by resemblance and co-specific and co-generic particulars resembling one another, they did not have in mind similarity with respect to such disjunctive properties alone. And since the negative property of not-being-both-not-$F$-and-not-$G$ is equivalent to the disjunctive property of being-either-$F$-or-$G$, they must not have been thinking of mere similarity with respect to such negative prop-

10. *Ibid.*, d.2, q.6, (OTh II, 212); cf. d.30, q.1, (OTh IV, 314).

erties either.

Ockham's view is that similarity comes in degrees ranging from trivial to maximal and including species-wise and genus-wise similarity. His hope is to account for the extension of genus- and species-concepts and for the fact that certain particulars are co-generic or co-specific in terms of nontrivial similarity relations.

## 2. SIMILARITY AND CO-GENERIC AND CO-SPECIFIC PARTICULARS

Drawing on the above theses about the nature of similarity, Ockham can reason as follows:

7. Similarity is a real relation that, given the existence of the relata, holds independently of any will—human or divine—and hence of any conventions.

8. Similarity comes in degrees ranging from trivial to maximal and including generic and specific similarity.

9. What makes it the case that certain particulars are co-generic or co-specific is that they are similar genus-wise or species-wise.

10. Therefore, that certain particulars are co-generic or co-specific is independent both of any intellectual activity comparing them and of any will—human or divine—and hence of any conventions. (7, 8, and 9)

11. Therefore, that certain particulars are co-generic or co-specific is neither arbitrary nor subjective. (10)

11 is a denial of step 6 of the above objection.

Moderate realists would not quarrel with Ockham's premisses, although they defend them differently. 7 is true, they say, because, given the existence of the relata $x$ and $y$, $x$ and $y$ are

similar by virtue of having a common metaphysical constituent that exists in them in reality, prior to and independently of the intellect's comparing them as well as any human conventions. Again, they would grant 9, while pointing to the metaphysically more fundamental fact that particulars are similar species-wise because the same specific nature exists in them as a metaphysical constituent of both. As for 8, Scotus himself says that Socrates is more similar to Plato than he is to Brownie the donkey, thereby implying that he is in some degree similar to Brownie the donkey. It is in denying him premisses 7 and 8 that Ockham would say the moderate realists have begged the question against him, and he has insisted that these premisses stand apart from the moderate realists' explanations of them.

Nevertheless, Ockham's opponents might charge that his interpretation of the premisses will not yield the conclusion. For 7–9 imply that similarity relations among particulars are not arbitrary and subjective: e.g., the fact that the blue square patch is similar to the blue circular patch color-wise but not shape-wise, or that Socrates resembles Brownie animal-wise but not rational-wise. But if according to 8 similarity comes in degrees, and there are no common specific natures in things to pick out one degree as species-wise similarity as opposed to others, it will be arbitrary and subjective which degree of similarity counts as species-wise similarity.

To this Ockham would have a twofold response: (a) First, it tells as much against his opponents as against him. For if moderate realists accept 8 and hold that any and every degree of similarity is founded on common metaphysical constituents, they will face the analogous difficulty of saying which common constituent or combination thereof is the specific and which the generic nature. Only those moderate realists[11] who declare species to be the only common metaphysical constituents are able to solve this problem more easily than Ockham, and they have already joined him in rejecting Boethius's intuitions about

11. Those mentioned by Ockham in *ibid.*, d.2, q.7, (OTh II, 226); cf. footnote 9 above.

similarity.

(b) Second, he would identify species-wise similarity with the same degree of sort of similarity as his moderate realist opponents do: viz., perfect similarity without any dissimilarity with respect to all essentials.[12] Thus,

(T3) $x$ and $y$ are similar species-wise, if and only if $x$ and $y$ are similar, and not dissimilar, with respect to all essentials.

To identify species-wise similarity with any other degree would not be arbitrary and subjective but mistaken, while grouping Socrates and Plato in the same species because Socrates' human nature is altogether similar to Plato's is the obvious and reasonable move to make.

Ockham intends this sorting proposal to apply both to substance-things and accident-things (see chapter 5 below), but recognizes complication where accidents that come in degrees are concerned. For he maintains (see Part Four, chapter 17 below) that qualities such as heat and whiteness come in different intensities, and yet the more and less intense degrees of heat or whiteness are members of the same most specific species. Yet, is there not a sense in which whiteness in the fourth degree is more similar to other whitenesses of the fourth degree than to whitenesses of the third degree? And in that case, fourth degree whiteness is not maximally similar to third degree whiteness.

Ockham observes that "if fourth degree whiteness and third degree whiteness were not altogether similar, nevertheless, nothing is to be found in one whiteness that is dissimilar to anything in another whiteness."[13] On Ockham's theory, a quality is made more intense by adding on more parts of it to those that were already there. Thus, he imagines that fourth degree whiteness might be divided into essential parts—say whiteness in the third degree and whiteness in the first degree—none of which would be in any way dissimilar to whiteness in the third

12. *Rep.* III, q.10, (OTh VI, 335–36).
13. *Ibid*, (OTh VI, 336).

degree or to some essential part thereof, just as each essential part of Socrates is altogether similar to some essential part of Plato. By contrast, Socrates does have an essential part, viz., his intellectual soul, to which no essential part of Brownie the donkey is altogether similar.

What about generic similarity? Remarking on the similarity of animals of different species, Ockham says vaguely that "they are neither altogether similar nor altogether dissimilar" and observes that "although their specific forms are not of the same kind, their matter is of the same kind, so that they agree in some essential part and differ in another."[14] This suggests

(T4) $x$ and $y$ are co-generic if and only if some essential part of $x$ is maximally similar to some essential part of $y$ and some essential part of $x$ is somehow dissimilar to some essential part of $y$.

But (T4) covers composites only and does not apply to the sorting of angels that are not maximally similar to each other into the genus of spiritual substance or of men and angels into the genus substance. Nor will it do any good to replace (T4) with

(T5) $x$ and $y$ are co-generic if and only if (i) if one of $x$ and $y$ is composite, then some essential part of $x$ is altogether similar to $y$, and some essential part of $x$ is not altogether similar to $y$ or some essential part of $y$; or (ii) if $x$ and $y$ are both simple, $x$ and $y$ are similar but not maximally similar

for two reasons: (i) will not sort men and angels into a common genus because the intellectual soul of man is not maximally similar to any angel; whereas (ii) will sort God into a genus with any simple creature and God is not supposed to fall under any genus. The latter difficulty plagues the following proposal

14. *Ibid.*

(T6) $x$ and $y$ are co-generic if and only if $x$ and $y$ are similar but not altogether similar

as well.

Although Ockham goes along with the theological consensus that God is not in any genus, (T6) really expresses the spirit of Ockham's view. Putting God in a genus causes trouble, only when combined with the moderate realist assumption that co-generic things have a common metaphysical constituent (see Part Five, chapter 21 below). When (T6) is combined with the recognition 8 that similarity comes in degrees, it seems to allow for many—even infinitely many—genera between the traditional most specific species man and donkey and their traditional proximate genus animal. Once again, this consequence need not disturb Ockham unduly for two reasons: (c) First, his theory shares his difficulty with the moderate realists'. Those who think there is a common metaphysical constituent grounding every degree of similarity, will have to hold that there are as many common constituents as there are degrees of similarity, and will have to say whether all or only some of them are genera. Those who hold that only the most specific species is a common constituent will have to admit varying degrees of similarity among things of different species nonetheless, and will still face the task of saying whether some or all of them represent genera.

(d) Second, Ockham might well find nothing sacred in Aristotle's identification of animal as the proximate genus of man and donkey. If there are infinitely many degrees of similarity, there may be no such thing as proximate genus. If each degree of similarity less than perfect similarity counts as generic similarity, then the fact that things are generically similar is still neither arbitrary nor subjective.

Why, then, did Aristotle identify animal as the proximate genus of man and donkey? Even granting that there are infinitely many genera, and the fact that particulars fall under them is neither arbitrary or subjective, the fact that we focus on some genera rather than others may well be dictated by pragmatic considerations. Ockham seems to hold (see Parts Two and

Three below) that our minds, by their very natures, can form some concepts and not others. For example, he thinks we can form simple concepts of man and animal but only composite concepts of caucasian man and negroid man; perhaps he also believes we can form only composite concepts of mammal and reptile as well. This psychological fact could well be part of the reason we and Aristotle focus on the genus animal rather than that of mammal. By themselves, these psychological considerations are not arbitrary, because, according to Ockham, which concepts we form depends on the natures of the particulars and the nature of the human mind and not on any contingent free choice—created or divine. And it would be misleading to say they are subjective, since such limitations on concept formation are common to all members of the species. Nevertheless, Ockham would doubtless allow that our interests, which may be arbitrary and subjective, are among the other factors that influence our choices.

Whatever may be said in favor of (T6) from Ockham's viewpoint, *Reportatio* III, q.9 finds him making a different suggestion. Instead of appealing to his belief that simple things may be somehow similar and somehow different, he suggests that things might be sorted into the same genus, not because of any maximal similarity among their intrinsic essential parts, but because of similarity with respect to something extrinsic. Thus, he suggests that men and angels belong to the common genus substance, not because "they agree in anything intrinsic," "but because they agree in something extrinsic, since they have accidents of the same kind—e.g., acts of understanding and will."[15] Similarly, whiteness, and blackness fall under the genus color, not because they agree in anything intrinsic, but because any subject that can have the one inhering in it can have the other inhering in it.[16] Thus, he seems to be proposing

(T7) $x$ and $y$ are co-generic if either (i) $x$ is (can be) the subject of the same sort of accidents as $y$ is (can be), or (ii) $x$

15. *Ibid.*, q.10, (OTh, VI, 336–37).
16. *Ibid.*, (OTh VI, 337).

does (can) inhere in something of the same sort as $y$ does (can).

(T7) is extremely broad, sorting not only whiteness and blackness but heat and whiteness into a common genus. This will not trouble Ockham, who insists that all really inherent accidents fall under the common genus quality and all subjects of inherence under the common genus substance (see chapters 5–8 below). But his opponents who maintain that there is a distinct kind of thing for each of the nine categories of accident would have to reject (T7). For (T7ii) would make all accidental forms co-generic, but things in different categories cannot fall under a common genus, because the categories are the highest genera.

## 3. OCKHAM'S DOCTRINE OF NATURAL SIGNIFICATION

Whereas the objector in steps 1–6 used

2. Which concepts count as generic and which specific depends in part on human convention

to establish

6. The fact that certain particulars are co-generic or co-specific is arbitrary and subjective,

Ockham can use his denial of 6 to arrive at the negation of 2 as follows:

11. That certain particulars are co-generic or co-specific is neither arbitrary nor subjective (i.e., not 6).

12. A concept is a genus-concept or a species-concept if and only if each member of its extension is co-generic or co-specific with each other member of its extension.

13. Concepts are natural signs that signify by virtue of real relations that obtain or not independently of any

will—human or divine.

14. Therefore, which concepts count as generic or specific is neither arbitrary nor subjective. (11, 12, and 13)

Step 2 is consistent with 11; for if concepts got their extension in part by convention, then, given 12, whether or not a concept was a genus- or species-concept would depend in part on convention. But Ockham joins the virtual consensus among medieval philosophers in maintaining 13, that concepts are natural signs. The success of his rebuttal of 2 thus depends upon whether Ockham is any the less entitled to this assumption than his opponents are. To answer this question, it is necessary to examine Ockham's doctrine of natural signification.

(3.1) *Signs and Natural Relations*. One thing is the sign of another if there is a relation between them that renders the first apt to make the second known. If the relation is a natural relation, the sign is a natural sign.

What sort of relation counts as a natural relation? The most obvious example is causality. Ockham thinks that one kind of natural sign is a sign in the sense of being something

> ...the apprehension of which causes something else to be cognized, although it does not cause the mind's first cognition of it, but causes an actual cognition in the mind after a habitual cognition...[17]

*A* is a natural sign of some other thing *B* in this sense if (i) the apprehension of *A* causes the apprehension of *B* and (ii) this causal relation is based on habitual association. The mind may make this habitual association because it becomes aware of a causal relation between *A*'s and *B*'s themselves (as it does in the case of smoke and fire), or because it has mastered a convention (as in the case of written and spoken words and what they signify). Thus, Ockham remarks that in this sense of 'sign'

> ...a spoken sound signifies naturally, just as any effect signifies at least its own cause, and just as a circle signifies wine in the tavern...[18]

17. *Summa logicae* I, c. 1, (OPh I, 8–9).
18. *Ibid.*, (OPh I, 9).

Because this causal relation between the apprehension of this sort of sign (*A*) and the apprehension of what it signifies (*B*) is necessarily based on habitual association, it is obvious that the apprehension of an *A* cannot cause one to apprehend *B* for the first time. For example, one could not acquire a concept of man for the first time simply by hearing a token of the noise pattern 'man'. Rather, one conventionally associates the noise pattern 'man' with the concept 'man', so that when someone who has made this association hears the noise, the concept comes to mind.

According to Ockham, concepts are not natural signs in this first sense. For example, a concept of Socrates does not bring Socrates into cognition, because the thinker habitually associates the concept of Socrates with Socrates in such a way that an apprehension of the concept of Socrates *causes* an apprehension of Socrates. Rather, on the objective-existence theory, the concept of Socrates is the objectively existent Socrates himself. And on the mental-act theory, the concept of Socrates *is* the apprehension of Socrates, the apprehension of which causes an apprehension of Socrates.

On Ockham's view, concepts are natural signs in the sense of being what "causes something to be cognized" for the first time.[19] And the natural relation that renders concepts signs in this sense is not one that can be made to obtain or not "at the pleasure of human beings," the way the causal relation between the apprehension of spoken and written signs and the apprehension of other things results from human conventions. The natural relation in question must be other than a causal relation that is within the power of human beings to establish or do away with.

As noted above, the so-called "intrinsic" relations of similarity, identity, and distinction meet this last requirement. And moderate realists and nominalists-conceptualists alike agree that concepts such as 'animal' and 'man' are related to their extensions by similarity relations. Thus, speaking of those general concepts that are determinate enough to be images, Ockham

19. *Ibid.*

concludes that such a concept can be the term of a proposition and can stand in a proposition for "all those things of which it is an image or likeness." And he comments that this is what it is for it "to be universal and common to them."[20] Even where concepts are too abstract to be images, however, they naturally signify what they resemble, since "every concept abstracted from a thing is equally related to everything that is maximally similar (*simillimum*) to it..."[21] Where concepts of particulars are concerned, he specifies the relation of identity or a combination of similarity and certain causal relations.

Since according to 8 similarity comes in degrees ranging from trivial to maximal, however, it is necessary to ask which degree of similarity constitutes the natural signification relation for abstract general concepts. At this point, the moderate realists may feel they have a decisive advantage in being able to appeal to their metaphysical analysis of similarity. For they maintain that just as the similarity of Socrates and Brownie or Socrates and Plato is to be analysed in terms of animal nature and human nature existing in as a metaphysical constituent of each, so they say the concept 'animal' or 'man' is animal nature or human nature existing in the intellect, so that the same animal nature or human nature that exists in the intellect as an abstract general concept exists in as a metaphysical constituent of each member of its extension. Thus, the natural signification relation for abstract general concepts such as 'animal' and 'man' is the intrinsic relation 'being a metaphysical constituent of' or, speaking loosely, "partial identity." Their charge against Ockham and other nominalists-conceptualists will be that without a metaphysical analysis of similarity in terms of unity, it will be impossible to specify any similarity relation as the natural signification relation.

In the next few sections I shall examine whether Ockham is able to meet this challenge, and conclude with some remarks on its relevance to the debate about universals.

(3.2) *Comparative Similarity and Natural Signification.*

20. *Ord.* I, d.2, q.8, (OTh II, 279); cf. (OTh II, 274).
21. *Ibid.*, q.9, (OTh II, 308).

Loosely speaking, Ockham's proposal is that general concepts such as 'animal' and 'man' naturally signify the things they resemble most; more precisely and schematically, a general concept $C$ signifies a thing $x$, if and only if there is nothing else $y$ which $C$ resembles more than $C$ resembles $x$. This is apparently what Ockham has in mind when he elaborates the objective-existence theory in *Ordinatio* I, d.2, q.8, saying that

> ...that *fictum*... can be called universal because it is indifferently related to all of the mind-independent particulars. And because of this likeness in objective existence, it can supposit for things that have a similar existence outside the understanding...[22]

And it is even more explicit in the following account of the mental-act theory:

> ...to have a confused act of understanding man is only to have a cognition by which one man is not more understood than another and nevertheless by such a cognition a man is cognized or understood more than a donkey is. And this is only to say that such a cognition is, by some sort of similarity, more similar to a man than to a donkey and not more similar to that man than to this one...[23]

This relation of comparative similarity—that of being that than which there is nothing more similar to the concept—is not one that holds trivially between a concept and anything else. Ockham maintains, for example, that while Socrates and Plato are so related to the concept 'man', Brownie the donkey is not. And like other similarity relations, it is an intrinsic, real relation. Can it really do the work of relating concepts to their significata, as Ockham claims?

(3.2.1.) *Comparative Similarity and the Objective-Existence Theory.* Whether or not comparative similarity will serve as an adequate criterion of the natural signification of general concepts on the objective-existence theory depends in part on what

22. (OTh II, 272); cf. *Expos. Periherm.* I, Prooemium, sec.7, (OPh II, 359–360).

23. *Ibid.*, sec.6, (OPh II, 355); cf. *Ord.* I, d.2, q.8, (OTh II, 270).

things are thought to enter into the comparison. In the above quoted passages where Ockham suggests this criterion, he speaks of concepts signifying mind-independent particulars. So we might start with the suggestion that only really existent things enter into comparison. The resultant criterion would be formulated as follows:

(T8) Letting '$C$' range over concepts and '$x$' and '$y$' over real existents, for all $x$, $C$ signifies $x$, if and only if there does not exist a $y$ such that $C$ resembles $y$ more than $C$ resembles $x$.

(T8) poses many difficulties. Decisive at this point is the fact that on the objective-existence theory, not all concepts signify real existents. For example, the concepts 'genus' and 'species'—and for that matter 'concept' and 'naturally significant name'—signify only concepts which the objective-existence theory identifies with things insofar as they have objective existence, not insofar as they have real existence.

It might seem that this difficulty with (T8) would be easily avoided simply by widening the universe of discourse as follows:

(T9) Letting '$C$' range over concepts and '$x$' and '$y$' over both really existent and objectively existent things, for all $x$, $C$ signifies $x$ if and only if there does not exist a $y$ such that $C$ resembles $y$ more than $C$ resembles $x$.

(T9) might give us the result that some concepts signify only objectively existent things, since Ockham could say that concepts such as 'genus' and 'species' are more similar to objectively existent concepts such as 'animal' and 'man', respectively, than they are to really existent things.

Nevertheless, Ockham himself raises an objection that shows (T9) to be inadequate. Discussing the objective-existence theory in the *Expositio in librum Perihermenias Aristotelis*, he writes,

> ...such a *fictum* is more different from any real things than any real thing is from another, because a real being and a being of reason differ

> more than any two real things. Therefore, such a fictional being is less similar to a real thing. Therefore, how much less will it be able to supposit for a real thing than an act of intellect that is more similar to it. Consequently, a fictum will be less common to a mind-independent thing than an act of intellect and consequently will have the aspect of a universal less than an act of intellect...[24]

Ockham is suggesting that the gulf between the ontological statuses—that of being objectively existent and that of being really existent—is so great, that a being of reason is more similar to any other real being than to any being of reason. It would follow by (T9) that no concept signifies really existent things, since all concepts are objectively existent.

Ockham offers the following reply on behalf of the objective-existence theory:

> ...it can be said that such a *fictum* or idol is more distinct from a mind-independent real thing than any real thing is from another. Nevertheless, in intension/existence, it is more similar to it, to the extent that if it could be produced in reality the way it can be imagined, it would genuinely be really similar to the mind-independent real thing. And this is why it is better able to supposit for a real thing and be common to it and be that in which a real thing is understood than an act of understanding or any other quality can...[25]

The move here is, in effect, to neutralize the similarities and differences between concepts and things that result from the mere fact that concepts are objectively existent, by excluding such similarities and differences from consideration in the calculation of comparative similarity. Thus (T9) would be replaced by

(T10) Letting '*C*' range over concepts and '*x*' and '*y*' over both really existent and objectively existent things, for all *x*, *C* signifies *x* if and only if there does not exist a *y* such that *C* resembles *y* more than *C* resembles *x*, leaving aside any similarities between *x* and *C* and *y* and *C* that result from the fact that *C* is objectively existent.

24. I, Prooemium, sec.7, (OPh II, 360–61).
25. *Ibid.*, sec.10, (OPh II, 370–71).

Ockham would then allege that, leaving aside the fact of their objective (as opposed to real) existence, the concepts 'genus' and 'species' still resemble the concepts 'animal' and 'man', respectively, more than they resemble any really existent things; but the concept 'man' resembles particular men more than it resembles other concepts.

Unfortunately, not even this modification will suffice. For, leaving aside the fact that the concept 'man' has only objective existence, the concept 'man' will still resemble partially indeterminate, objectively existent things such as the concept 'australoid man' or 'negroid man' more than it resembles fully determinate particular men. Yet, the concept 'man' signifies the latter and not the former.

It might be thought that if Ockham could only find some other criterion for distinguishing concepts that signify only things that can really exist from those that signify only things that cannot really exist, his problems would be solved. For he could employ (T8) for determining what the first group signifies and (T9) for determining what the second group signifies.

Numerous obstacles stand in the way of this solution, however. One is that (T8) would force concepts that signify only things that can really exist, to signify some or other of the things that do really exist in fact. Consider a possible world whose only animals are human beings and donkeys and in which some human being has the general concept 'cow'. Applying (T8) in that world, we would have to conclude that it and any world containing the general concept 'cow' and at least one other thing will contain at least one cow. And on the objective-existence theory, according to which a concept can have objective existence only if there is a really existent act of thought, the latter condition will always be satisfied. (I assume that a thing is not similar to itself, but only to something else. But if a thing is similar to itself, the absurdity follows more easily.)

Notice, however, that (T10), with its universe of discourse including both real and objective existents, would not have this consequence. For even in a world with no real cows, all possible particular cows would have objective existence in God's mind. And the general concept 'cow' would be more similar to

such objectively existent particular cows than to any particular donkeys. This brings us to a second difficulty with (T8): it implies that the signification of general concepts such as 'man', 'donkey', and 'cow' is exhausted by things that do in fact really exist. Ockham wants to say, however, that the concept 'man' signifies not only particular men that do actually exist, but—on one interpretation (see Part Two, chapter 11 below)—all of the unactualized possible men as well. (T10) makes such unactualized possible men available to be signified.

These observations suggest an alternative response to the difficulties with (T10). Divide concepts into those which signify only fully determinate particulars that can really exist and those that signify other things (whether instead of or in addition to fully determinate particulars). Use (T10) as it stands for the second group, and for the first use the following analogue:

(T11) Letting '$C$' range over concepts and '$x$' and '$y$' over both really and objectively existent particulars, for all $x$, $C$ signifies $x$ if and only if there does not exist a $y$ such that $C$ resembles $y$ more than $C$ resembles $x$, leaving aside any similarities between $x$ and $C$ and $y$ and $C$ that result from the fact that $C$ is objectively existent.

(T11) would allow general concepts such as 'man', 'donkey', and 'cow' to signify merely possible as well as actual particulars and even merely possible instead of any actual particulars. Once again, the obstacle to this solution is in finding some natural properties by means of which to discriminate concepts of one group from those of the other. We have seen that comparative similarity will not do this job, and I am at a loss to know what would.

(3.2.2) *Comparative Similarity and the Mental-Act Theory.* How does Ockham's proposal—that general concepts signify all of the things they resemble most—fare on the mental-act theory? Once again, it is necessary to ask what things figure into the calculation of comparative similarity. Given that the theory abandons the distinction between objective and real existents,

only real existents seem to be left. The initially indicated criterion is thus

(T8) Letting '*C*' range over concepts and '*x*' and '*y*' over both really and objectively existent things, for all *x*, *C* signifies *x*, if and only if there does not exist a *y* such that *C* resembles *y* more than *C* resembles *x*.

But we have already seen how (T8) poses difficulties that would necessitate at least some modifications in it. How, for example, would the mental-act theory cope with the problem that (T8) forces every concept to signify the really existent things it resembles most, no matter what really exists? So long as the mental-act theory restricts its ontological commitment to really existent particulars, the problem is insoluble. In the *Summa logicae*, however, Ockham writes from the viewpoint of the mental-quality theory and allows that in one sense a term '*F*' signifies not only all those things that are *F*, but also those that can be *F*;[26] further, he maintains that the term '*F*' stands not only for those that are but also for those that can be in propositions of the form '*x* can be *F*'. On one interpretation (whose merits will be examined in Part Two, chapter 11 below), Ockham can be seen there as extending the ontological commitments of the mental-act theory to unactualized possible particulars as well, thereby opening the way to replacing (T10) with

(T12) Letting '*C*' range over concepts and '*x*' and '*y*' over actual and possible real existents, for all *x*, *C* signifies *x* if and only if there does not exist a *y* such that *C* resembles *y* more than *C* resembles *x*.

(T12) brings difficulties of its own, however. For according to the mental-act theory, all concepts are mental qualities and as such would be essentially more similar to any other concept than to any extramental substance or quality. Ockham himself

26. I, c.33, (OPh I, 95).

cites an objection that invokes the premiss 'No accident can be similar to substance.'[27] It would follow by (T12) that no concepts could signify such extramental substances or qualities, but would signify other concepts—which is unacceptable.

Ockham could try to avoid this problem by removing (T12) and substituting the analogue of (T10) for the mental-act theory:

(T13) Letting '*C*' range over concepts and '*x*' and '*y*' over actual and possible really existent things, for all *x*, *C* signifies *x* if and only if there does not exist a *y* such that *C* resembles *y* more than *C* resembles *x*, leaving aside any similarity between *x* and *C* and *y* and *C* that results from the fact that *C* is a mental quality.

I have not found a passage in which Ockham explicitly makes this move, but its necessity is acknowledged by the fifteenth century logician Paul of Venice. Facing a similar objection, he admits that where essences are concerned, "the resemblance between this intension [i.e., the intension of a man] and any other intension is greater than the resemblance between it and a man" and "the association between a man and a donkey or between Socrates and Plato is greater than the association between the intension of man and man or between the intension of Socrates and Socrates."[28] It is by virtue of accidental similarity, however, that an intension of the mind signifies what it signifies. Thus Paul writes,

> ...there is a greater accidental association between the intension 'man' and man than between it and another intension, because 'man' is caused by a man and not by some other intension.[29]

Just as it is the accidental arrangement of colors that makes what is essentially a piece of canvas a picture of a man rather than a

27. *Ord.* I, d.2, q.8, (OTh II, 282).

28. *Logica magna*, Part I, Tractatus de terminis, c.2, (Kretzmann ed. and trans., 67).

29. *Ibid.*, 67 and 69.

picture of a green house or a picture of a piece of canvass, so it is the accidental features of a mental quality that make it a concept of a man or the concept of man in general, rather than the concept of a green house or a concept of a concept.

Recall that according to the mental-act theory, my thought of a green house is to be analysed in terms of the real existence of an act of intellect that really has the property of being-of-a-green-house. According to (T13), the property of being-of-a-green-house would consist in the above mentioned accidental features with respect to which my thought resembles a green house more than it resembles anything else.

The question is, is it plausible to suppose that my thought of a green house is similar to a green house, and indeed more similar to a green house than to a man with respect to such accidental features? For example, a color photograph of a green house resembles green houses and resembles them more than it resembles a man with respect to such accidental features. For the picture's color will be more similar to that of the house than to Socrates' coloring. Further, the shape of the green patch in the picture will be (roughly) some two dimensional analogue of the shape of part of the three dimensional green house, but will presumably not be any two dimensional analogue of the shape of Socrates. But an act of intellect that is of-a-green-house cannot resemble the green house in the same way that a color photograph of a green house can. The reason is that the act of intellect is an unextended mental quality and hence has no accidental features that can be green or a two dimensional analogue of the shape of the house. This fact makes it highly doubtful that an act of intellect should have any similarity to a green house that it would not have to a man. If such similarity is ruled out, then, on the mental-act theory, comparative similarity cannot be the relation that accounts for the signification of material things by concepts.

(3.3) *Summary.* I do not see how Ockham can specify, either on the objective-existence theory or on the mental-act theory, a similarity relation that can constitute the natural signification relation for general concepts such as 'animal' and 'man', but I think this has no relevance whatever for deciding the issue be-

tween the nominalists-conceptualists, on the one hand, and the moderate realists on the other. For either my and/or Ockham's failure to identify such a relation results from limited imagination, or it comes from the fact that there is none. If the former, it has no tendency to reveal anything metaphysically pernicious in the nominalist-conceptualist refusal to ground similarity relations in common metaphysical constituents. If the latter, then both theories are equally mistaken about the natural signification of general concepts. For if there is no similarity relation that ties the concept 'man' to Socrates and Plato but not to Brownie the donkey and green houses, then there is no relation for the moderate realist to analyse by saying that the common human nature that exists in the mind as a concept is a metaphysical constituent of Socrates and Plato but not of Brownie and green houses. What the failure of (T8)–(T13) calls into question is at most the existence of the requisite similarity relation; but what moderate realists disagree with nominalists-conceptualists about, is the analysis of such relations, should they exist. Nevertheless, it is too early to conclude that Ockham's rebuttal of the objection in steps 1–6 is successful. For his account of what makes particulars co-generic and co-specific and of the natural signification of concepts such as 'animal' and 'man' avoids making these facts arbitrary and subjective, only if similarity relations are not arbitrary and subjective. Whether Ockham can consistently maintain that they are not, depends on his account of the signification of syncategorematic and connotative concepts, which will be the subject of chapter 9 below.

## 4. APPENDIX: NATURAL SIGNIFICATION AND THOUGHTS OF PARTICULARS

Contemporary interest in the theory of proper names, makes it worthwhile to consider Ockham's account of the natural signification of thoughts of particulars. On the objective-existence theory, what makes an act of thought to be a thought or awareness of a given particular is that it is directed towards a

certain objectively existent entity which naturally signifies the particular in question. On the mental-act theory, it is that the act of thought itself naturally signifies that particular.

What is the relation of natural signification between an objectively existent entity and a given particular, where thoughts of particulars are concerned? Our discussion above (chapter 3) indicates that the relation must be identity. Ockham says explicitly in the case of God's thoughts of particular creatures that "the same thing is an idea" insofar as it has objective existence in the mind of God "and is produced independently of the mind" by God.[30] And, since objectively existent entities are supposed to be the immediate objects of thought, saying that they are identical with the things they naturally signify is essential for reconciling the objective-existence theory with a direct realist position in theory of knowledge.

Obviously, the natural signification relation cannot be identity on the mental-act theory, since no mental act is identical with any material thing. Further, given Ockham's position that no mental act is an awareness of itself, it cannot naturally signify any mental act by identity either. An adherent of the mental-act theory might be expected to appeal again to

(T13) Letting '$x$' and '$y$' range over actual and possible real things, $C$ signifies $x$, if and only if there does not exist a $y$ such that $C$ is more similar to $y$ than to $x$, leaving aside any similarity between $x$ and $C$ and $y$ and $C$ that results from the fact that $C$ is a mental quality,

noting that where we are dealing with thoughts of particulars, there is always one particular that is more similar to the thought or concept than any other particular is.

I have already questioned whether the appropriate similarity relations can obtain between mental acts and their mind-independent significata, even where abstract general concepts are concerned, and the same difficulty arises, a fortiori, in connection with thoughts of particulars. And Ockham himself

30. *Ord.* I, d.2, q.1, (OTh II, 25).

twice considers a related, although less sweeping, objection to defining the natural signification of thoughts in terms of (T13).[31] The argument begins with the observation that acts of cognition are "just as similar to one particular as to another maximally similar to it and represents one just as much as another."[32] If so, it follows from (T13) that no such cognitions are of single particulars but all are general, signifying numerically distinct particulars equally.

Ockham does not deny the premiss—that acts of cognition are equally similar to many, actual and/or possible, particulars—and in effect concedes the conclusion that (T13) needs amendment. His response is that "similarity is not the precise cause why it [an act of cognition] understands one thing and not another."[33] Rather a cognition

> is proper to one particular, not because it is more similar to one than to another, but because naturally it is caused by one and not by another, nor can it be caused by the other.[34]

When I look at a white patch, my cognition is equally similar to many whitenesses including this whiteness. But my cognition is of this whiteness rather than any of the others, because, unlike them, this whiteness stands in the requisite causal relation to that act. This suggests the replacement of (T13) by

(T14) Letting '$C$' range over concepts and '$x$' and '$y$' over actual and possible real things, for all $x$, $C$ signifies $x$ uniquely if and only if (i) there does not exist a $y$ such that $C$ is more similar to $y$ than to $x$, leaving aside any similarity between $x$ and $C$ and $y$ and $C$ that results from the fact that $C$ is a mental quality; and (ii) $x$ stands in the appropriate causal relation to $C$.

Ockham does not give a precise specification of this causal rela-

31. *Rep.* II, q.12–13, (OTh V, 287) and *Quodl.* I, q.13, (OTh IX, 74, 76).
32. *Ibid.*, (OTh IX, 74).
33. *Rep.* II, q.12–13, (OTh V, 287).
34. *Quodl.* I, q.13, (OTh IX, 76).

tion here. In the Prologue to his commentary on the *Sentences*, however, he indicates that when I see an existent and present white patch, that whiteness is a partial efficient cause, whether mediate or immediate, of my awareness of it. In cases of human sensory cognitions, the angels' intellectual cognitions, and human intellectual cognitions of mental acts, it seems that the object is an immediate partial efficient cause of the act. And he speculates that this is the way it will be with our intellectual cognitions of material things when our souls are separated from our bodies. But he does not make clear whether the object acts immediately, or only by means of sensory cognitions, to cause intellectual acts of awareness in this life. Whatever the requisite causal relation, Ockham implies in *Quodlibeta* I, q.13, that it is one that does not obtain between particulars and cognitions of imagination and memory. Distinguishing between simple and composite concepts (the latter being composed of several concepts and the former not), he concludes that all simple cognitions of imagination and memory are general and none proper to a given particular.[35] Thus, Ockham seems to have in mind the relation of being an immediate partial efficient cause of the mental act and possibly that of being a mediate cause of the act by immediately causing a sensory cognition, which is an immediate cause of the intellectual act.

Ockham's reasons for replacing (T13) with (T14) invite comparison with the contemporary movement away from a Russellian analysis of proper names. Just as Ockham begins with an attempt to account for natural signification in terms of comparative similarity, so Russell maintained that ordinary proper names had a bearer only if one and only one thing had all of the concepts associated with the name. Some objected that the latter criterion was too stringent, and substituted the requirement that a thing have a sufficient number of those qualities. Others worried that the modified criterion was too permissive, in that several things might have all or a sufficient number of such qualities. Causal theorists do not deny that a collection of properties is usually associated with ordinary proper names.

35. (OTh IX, 76–77).

But they conclude that it is not the properties, but an appropriate causal relation between a thing and a speaker's use of the name, that picks out the name's bearer. Likewise, on reflection, Ockham concludes that comparative similarity "cannot be the precise cause" of a concept's signifying one thing to the exclusion of another. Conceivably, if he had dwelt longer on cases of misperception, he might have concluded that comparative similarity was not a necessary condition of a concept's signifying a thing either. Ockham overlooks these considerations, however, and invokes the causal relation to supplement rather than replace the similarity relation.

Nevertheless, the parallelism here should not be overstated. For it was the ordinary proper names of conventional language that Russell tried to expose as truncated descriptions. The proper names of Ockham's mental language are really more analogous to Russell's logically proper names. For they are the cognitions in which we apprehend particulars immediately and for the first time. In Russell's terminology, in such cognitions we know particulars "by acquaintance" and not "by description." Ockham allows that we can compound various simple cognitions of memory and imagination together to arrive at a composite concept that is proper to Socrates and by means of which we conceive of him as having a certain color, shape, location, etc.[36] The latter's composite concepts would be a closer analogue, in Ockham's theory, of Russell's alleged truncated descriptions. And, paralleling Russell, Ockham tacitly assumes that such a composite concept is proper, whereas its simple components are not, because many things may be equally similar to one simple concept, while one actual thing is more similar to the composite than any other actual thing.

Further, Ockham's theory appeals to different causal relations from contemporary causal theorists of proper names. The latter usually specify what counts as an appropriate causal connection by examples. *P*'s witnessing *x*'s being christened *N* would be a paradigm case of such a relation, but quite indirect connections—such as some fourth century divine's witnessing

36. *Ibid.*, (OTh IX, 77).

the christening and recording it in some official document which in turn is noted by successive historians including the one that *P* reads—are also held to qualify. Ockham, by contrast, calls only on causal connections that are comparatively direct. And, at least where memory cognitions are concerned, this requirement seems unduly restrictive. Suppose I have never seen anything white and see a white patch for the first time. Let us call the particular whiteness I see $W_1$. If I immediately close my eyes and remember what I saw, would we not be willing to say that I was remembering $W_1$ in particular, even if my memory cognitions were equally similar to many white patches that I have never seen? Suppose that in general *R* is the causal connection between a particular and the mental disposition *D* which Ockham thinks causes memory cognitions. Could not Ockham allow that a memory cognition signifies all of these particulars that meet condition (i) of (T14) and that are *R* to *D*? If there are many particulars of this sort, he could conclude that the memory cognition was common. But if there were only one such particular as in the example, he could say that the cognition was proper to it.

Given the range of causal connections that Ockham actually counts as appropriate, it is clear why he needs to retain condition (i) as well. For an act of thought or awareness may have more than one immediate partial cause. Ockham suggests, although he thinks it cannot be proved, that God is always an immediate partial efficient cause of any effect. If (T14) stipulated condition (ii) alone, it would follow as much from (T14) as (T13) that such acts were common to at least two things—to God and the creature. Adding condition (i) enables him to say that the above mentioned mental act is an awareness of whiteness and not of God, on the ground that the act resembles the whiteness more than it resembles God, but resembles nothing (besides other mental acts) more than it resembles the whiteness.

Nevertheless, difficulties with (T14) remain. As Ockham sees it, it is a consequence of divine omnipotence that whenever God acts together with a creature to produce some effect, He has the power to produce that same effect by acting alone. And

in discussing the acts by which we are first aware of particulars, he explicitly concludes that God could act alone to produce a cognition that is of this whiteness in particular and not of anything else. (T14) does not allow for this possibility, since where God causes the cognition acting alone, nothing will satisfy both conditions (i) and (ii).

Ockham replies in *Reportatio* II, q. 15 that

> ...any act of understanding a creature, which act is caused by God, can have a creature as a partial cause, although it is not caused [by that creature] in fact. Therefore, the act of the intellect cognizes that particular by which it would be determinately caused if it were caused by a creature. But one particular is of this sort and not of another. Therefore, etc.[37]

And in *Quodlibeta* I, q. 13, he says that "such a vision is always apt to be caused by one created object and not by the other."[38] For an act of thought or awareness to have a single particular as its immediate object, it is not necessary that the particular should *actually* stand in the requisite causal relation, but only that it should be *apt* to do so. Thus, Ockham's proposal might be formulated as follows:

(T15) Letting '$C$' range over concepts and '$x$' and '$y$' over actual and possible real things, for all $x$, $C$ signifies $x$ uniquely, if and only if both (i) there does not exist a $y$ such that $C$ is more similar to $y$ than to $x$, leaving aside any similarity between $x$ and $C$ and $y$ and $C$ that results from the fact that $C$ is a mental quality; and (ii) either $x$ is God and $x$ stands in the appropriate causal relation to $C$, or $x$ is the only creature that can stand in the appropriate causal relation to $C$.

Since, of the cognitions that he explicitly allows to be proper to a single particular, all are at least apt to have their objects as partial efficient causes, Ockham would probably have been willing

37. (OTh V, 289).
38. (OTh IX, 76).

to replace condition (ii) with

(ii′) either $x$ is God and $x$ stands in the appropriate causal relation to $C$, or $x$ is the only creature that can be an immediate partial efficient cause of $C$.

Ockham's thoughts seems to be that being-caused-by-God-or-by-this-whiteness is an essential property of a cognition that is proper to this whiteness. That is, one could construe (T15) to mean that if $C$ is a particular cognition that has this whiteness alone as its immediate object, it is impossible that anything actual or possible other than this whiteness or God should cause $C$ to exist. It follows that for Ockham, there is a sense in which not all causal connections among creatures are contingent. For while '$C$ is caused by this whiteness' is contingent, since it is contingent that $C$ exists at all and $C$ could have been caused by God instead, 'If $C$ is caused by a creature, $C$ is caused by this whiteness' is necessary (see Part Four, chapter 18).

However these criteria fare as applied to created concepts, none of them adequately captures the relation between the divine conception and its particular objects. Neither (T14) nor (T15) do, because—as Ockham himself insists—God's act of thought neither is nor can be caused by anything. (T14) fails for an additional reason, because the divine essence is supposed by Ockham to be an act that at once has all actual and possible creatures as its immediate objects. This would be possible according to (T13), only if the divine essence were equally similar to everything—which it is not, because it is more similar to rational creatures made in God's image than to others.[39] And even if it were, (T13) could not explain why the divine cognition is hereby a distinct cognition of each particular rather than an abstract general concept of created being that is determinate only in those features had by all creatures and indeterminate and determinable with respect to the rest. Thus, the mental-act theory as Ockham develops it completely fails to explain what

39. *Ord.* I, d.3, q.10, (OTh II, 555–57).

makes God's thought a distinct cognition of all actual or possible creatures at once (see Part Five, chapter 24 below).

It might seem from this that the objective-existence theory would have a compelling advantage over the mental-act theory, when it comes to accounting for the direction of acts of thought to particulars. For the objective-existence theory says that a thought will be a thought *of* a particular $x$, if the thought is directed towards the objectively existent entity that is identical with $x$. Thus, God's thought will be a distinct thought of all possible particulars, if, for each such particular, His thought is directed towards the objectively existent entity that is identical with it. This advantage is only apparent, however. For, as we have already seen, what directs an act of thought towards a given objectively existent entity is its "content." And Ockham appears to identify the content of thoughts of particulars with the problematic relations mentioned in (T15). Thus, unless some more adequate account for such possible causal relations can be found, we shall have to conclude that neither the objective-existence theory nor the mental-act theory gives an adequate account of what makes a thought a thought *of* a given par-

# 5

# Ockham's Ontological Program

Ockham presents his own ontology as the conclusion to be drawn from his critique of the alleged mistakes of his predecessors and contemporaries. In chapters 1 and 2, we have seen how they assumed that Aristotle's ten categories were categories of common or universal things that somehow exist in reality in particulars. Ockham's program for refuting this thesis divides into two parts. The first, which we have already examined in chapter 2, consists in arguing that nothing but particulars can exist in reality. Ockham identifies universals primarily with naturally significant concepts and secondarily with conventionally significant general terms. And we will complete our measure of comparative ontological commitments of Ockham's objective-existence and mental act theories in Part Two, chapter 11 below.

Ockham's opponents were not, however, simply committed to the view that what is common or universal exists somehow in reality. They also held that there were at least ten, fundamentally different kinds of things—one for each of Aristotle's ten categories. The second part of Ockham's ontological program is aimed at showing that this contention is mistaken as well. Ockham argues that natural reason will support only a belief in particular substances and particular qualities, and doctrine requires us to add only the existence of certain relations.

Limitations of space prevent us from examining Ockham's whole defense of this selection. In the remainder of this chapter, I shall first sketch a composite of the views that Ockham is opposing and lay out the general strategy of his attack on them. Then, in chapters 6 and 7, I will turn to a detailed consideration of his arguments that nothing other than particular substances and particular qualities corresponds to the

categories of quantity and relation. His arguments regarding motion and time will be postponed until Part Four below. In chapter 8, I shall try to explain why Ockham did believe that some qualities are things really distinct from substances. Chapter 9 will deal with some general objections to the ontological program.

## 1. THE POSITION OF THE "MODERNS"

One can get a better feel for the sort of position Ockham was set against by combining the various ontological theses he rejects in *Summa logicae*, Part I, chapters 42–62. Naturally, such a composite ontology caricatures the views of some of his opponents, and some of these distortions will be corrected in the detailed discussions of later chapters. For now, it will be useful to have a general picture before us, so that we can appreciate the general thrust of Ockham's arguments. Since Ockham often refers to those he is criticizing generically as "moderns," I shall label this view "the position of the moderns."[1]

According to this composite picture, then, trees and horses, water and air, and even minds have a kind of layer-like structure. The core of each thing is its substance. And substance, by virtue of its being one, is the subject of contraries of a fundamentally different kind—viz., substance is one by the inherence of discrete quantity, the accident of unity.[2] Even when substance is thus made one by the inherence of discrete quantity, qualities do not inhere in substance directly, but in yet

1. This view is strongly suggested by the opening paragraphs of Peter of Spain's *Tractatus suppositionum*: "Moreover, each noncomplex term signifies either a substance, or a quality, or a quantity, or a relation, or an action, or a passion, or a place, or a time, or a situation, or a habit. Signification is taken here for the conventional representation of a thing by a word. Whence, since everything is either universal or particular, expressions that do not signify only universal or particular are not significant..." (*Summulae logicales*, (Mullally ed., 2)).

2. I infer that some of them thought this from the fact that Ockham takes the trouble to argue against it in two places: his *Expos. Praedicam.*, c.2, sec.15, (OPh II, 51–52) and *Summa logicae* I, c.44, (OPh I, 138).

another distinct thing, a continuous quantity that inheres in the substance directly.[3] Substance, quantity, and quality were conceived of as being distinct "absolute" things. Relations are things of a kind different from any of these and are not said to be "absolute" things but "respects" (*respectus*) or relative things (*res relativae*). These have their foundations in either the substance, quantity, or quality of a thing. Thus, if Socrates and Plato are both white, the foundation of Socrates' similarity to Plato is Socrates' whiteness and the foundation of Plato's similarity to Socrates is Plato's whiteness. Thus, a relative thing that is his relation of similarity inheres in Socrates or his whiteness and another one inheres in Plato or his whiteness. Again, if Socrates is the father of Plato a thing that is his fatherhood and that is distinct from Socrates' substance, quantity, and qualities inheres in Socrates or in his quantity or qualities. And a corresponding thing that is the relation of sonship inheres in Plato or in his quantity or qualities.[4] Again, if two boards are equal in length, there is a thing distinct from the substance, quantity, or qualities of the first board that inheres in it or its quantity and another distinct from the substance, quantity, and qualities of the second board that inheres in it or in its quanitity. Action is a respect or a relative thing said by some to exist in the agent and by others in the patient, while those of the former persuasion held that a passion is another relative thing that inheres in the patient.[5] Likewise, temporal location (*quando* or *quandalitas*) is a relative thing distinct from other relative things and from absolute things. Each one replaces and is replaced by other such relative things in succession, and other things exist first at one time and then another by virtue of their successive inherence.[6] Spatial location is still another kind of relative thing that has its foundation in the thing located and its term in the place.[7] Position is another respect existing in the

3. *Ibid.*, (OPh I, 132).
4. *Ibid.*, c.49, (OPh I, 154).
5. *Ibid.*, c.57, (OPh I, 186) and c.58, (OPh I, 188).
6. *Ibid.*, c.59, (OPh I, 190).
7. *Ibid.*, c.60, (OPh I, 191).

whole or in the parts of a substance; by virtue of it existing in the thing, the thing sits, rises, etc.[8] Finally, a having (*habitus*) is a relative thing that inheres in a body that is around or contained in another.[9] Aristotle had classified corporeity (three-dimensional extension and possibly impenetrability), surfaces, lines and (by reduction) points as falling under the division of continuous quantity. And some moderns had concluded that in a physical object, its corporeity is a thing really distinct from its substance; its surface, a thing really distinct from its substance; each of the infinity of lines on the surface, a thing really distinct from every other line and from the surface; and each of the points on the lines, a thing really distinct from every point and from the lines.[10]

The resultant ontology is rich both in the variety and the number of entities it assumes. An analysis of the metaphysical structure of a rolling billiard ball yields not only at least ten different kinds of things, but infinitely many of some of them. What sort of reasoning could lie behind such a surprising conclusion?

## 2. SEMANTICS AND ONTOLOGY

Semantics, the science of how words are related to things, naturally has a close connection with metaphysics. A philosopher's firm ontological convictions are bound to affect what he allows words to stand for. Equally well, an overriding commitment to a general semantic thesis will influence his ontology. Ockham clearly believes that the "moderns" were led to make such extensive ontological commitments precisely because they endorsed one of a range of mistaken assumptions about how words are related to things.

(a) Of these, the crudest is attributed to them by Ockham in the *Summulae Physicorum*:

8. *Ibid.*, c.61, (OPh I, 192).
9. *Ibid.*, c.62, (OPh I, 193).
10. *Ibid.*, c.48, (OPh I, 152).

> ...This, therefore, is the basis of many errors in philosophy: [the assumption] that a distinct signification always corresponds to a distinct word, so that the distinction among things signified is just as great as that among names or significant words...[11]

Apparently, the thesis is that whatever else may be involved in the signification of a word, each token of a given word type signifies some entity distinctive to that word type and signifies it in such a way that that entity must exist if any affirmative categorical proposition in which it occurs is to be true. Ockham carps that if this rule were applied consistently, its adherents would not only be led to posit when-nesses (*quandalitates*) and where-nesses (*ubeitates*) corresponding to time and place words,[12] but also and-ness (*etitas*) and but-ness (*seditas*) corresponding to 'and' and 'but'! While scarcely anyone drew the latter conclusion (after all, conjunctions such as 'and' and 'but' are syncategorematic terms that are not thought to signify anything by themselves but only signify together with another term), Ockham was convinced that many of his opponents failed to appreciate the syncategorematic force included in the meaning of many terms.

(b) Less blatantly implausible was the assumption that the significations of every pair of concrete and abstract terms are related the way that of 'white' and 'whiteness' are. As Ockham explains in *Summa logicae* I, chapter 10, 'whiteness' is a merely absolute noun in that it does not signify one thing principally and something else or the same thing secondarily, but signifies whatever it signifies with equal primacy.[13] In this case, 'whiteness' signifies each and every particular whiteness and signifies one just as primarily as it signifies any other. By contrast, 'white' is a connotative term whose nominal definition is 'something informed by whiteness' or 'something having whiteness'. Accordingly, it signifies something primarily or directly, viz., the thing that is informed by or has the whiteness, and something obliquely, viz., the particular whiteness that in-

11. III, c.7, 55–56, (OPh VI).
12. *Quodl.* V, q.22, (OTh IX, 565).
13. (OPh I, 35).

heres in what has it.[14] If the significations of each pair of concrete and abstract terms were related in this way, then the abstract noun would always signify some entity or accident that inhered in the thing primarily signified by the concrete noun or adjective. Thus, paternity would be supposed to be some entity distinct from and inhering in the thing that is a father; similarity, an entity distinct from and inhering in the thing that is similar; quantity, an entity distinct from and inhering in the thing that is quantified; activity, an entity distinct from and inhering in the thing that acts, etc. Given the penchant of thirteenth and fourteenth century philosophers and theologians for inventing abstract nouns to correspond to concrete ones, this semantic assumption could prove ontologically permissive indeed!

Nevertheless, Ockham finds no compelling reason to endorse this thesis, and indeed brings arguments against its ontological consequences as we shall see in succeeding chapters. On the contrary, unaided natural reason would say that abstract and concrete terms in the category of substance are synonymous and are like merely absolute terms, while abstract and concrete terms in all of the accidental categories except for certain species of quality are synonymous and are connotative terms that signify some substance or quality directly and some substance or quality obliquely.[15] Thus, 'horsehood' does not signify anything distinct from and inhering in a horse, but is a merely absolute term signifying particular horses, just as 'horse' is. And 'curvature' does not signify anything distinct from and inhering in what is curved, but signifies the curved object directly and obliquely signifies that its parts are arranged in a certain way.

(c) In the cases just mentioned, the abstract nouns do function as nouns, even if they are not merely absolute terms the

14. This analysis of the signification of 'white' and 'whiteness' presupposes that the quality whiteness is a thing really distinct from the substance that is white. Why Ockham believed this will be discussed in chapter 8 below.

15. *Quodl.* V, q.9, (OTh IX, 514–18); cf. *Summa logicae* I, c.6, (OPh I, 20–21) and *Expos. Praedicam.*, c.7, (OPh II, 316). For theological alterations in this thesis see Part Five, chapter 22 below.

way 'whiteness' is. Ockham cautions that this is not always so where the abstract nouns invented and used by philosophers and theologians are concerned. For often they use abstract nouns to abbreviate longer and more cumbersome expressions that contain syncategorematic terms, verbs, adverbs, etc. In such cases, it is not possible merely to replace the abstract noun with the complex expression it abbreviates without rendering the sentence ungrammatical. Rather the proposition must be expounded as a whole, sometimes in unobvious ways. In his first *Treatise on Quantity*, Ockham gives the following example:

> Thus, I maintain that the proposition 'Generation is in an instant' should not be understood as it sounds, as if one thing were in another, the way the proposition 'Water is in a vase' denotes that one thing is in another distinct thing. For it is clear by induction that it cannot be said that generation is in an instant in any of the ways of equivocally taking the preposition 'in' discussed by the Philosopher in Book IV of the *Physics*. Rather the proposition 'Generation is in an instant' should be understood as follows: 'when something is generated, it is not generated one part after another but all at once'. Thus, the short proposition 'Generation is in an instant' replaces the long expression 'When something is generated, it is not generated one part after another but all at once' for the sake of brevity.[16]

Likewise, 'Motion is in time' may be used to abbreviate 'When something moves, it acquires one part before another continuously'. Once introduced, these pseudo-nouns acquire a life of their own and may be used even when the resultant proposition is not shorter. For example, Ockham claims, Aristotle, Averroes, and other authorities may read 'A point is an indivisible thing' when they mean to say only 'A line is not further extended'.[17]

Here Ockham agrees with his opponents that if one takes the structure of the propositions 'Generation is in an instant' and 'Motion is in time' at face value, one will understand them to imply that there are such things as generation and motion, instants and time and that the former are in the latter, respective-

16. Q. 1, (Birch ed., 54, 56).
17. *Ibid.*, (Birch ed., 41).

ly. But unlike the moderns, Ockham is not content to draw these ontological conclusions. His strategy for avoiding them recalls Bertrand Russell's treatment of definite descriptions. If we suppose that definite descriptions always function as names to denote an entity that satisfies the description, then we shall have to conclude that the definite description in the true proposition 'The present king of France does not exist' denotes a nonexistent entity; for no existent entity satisfies the description. Wishing to avoid the resultant ontology of existent and nonexistent entities, Russell proposed to give a contextual definition of 'the present king of France' in that proposition, analyzing it as 'It is not the case that there is one and only one $x$ such that $x$ is presently king of France' where no term of the latter denotes anything but existent entities. Similarly with Ockham's construal of 'Generation is in an instant'. When it is replaced with 'When something is generated, it is not generated one part after another but all at once', the impression that there must be some such things as generation and as an instant to be named by its terms is lost.

Nevertheless, there is an important difference between Ockham's and Russell's procedures here. For where Russell's proposal is about how we are to understand the *literal* sense of propositions containing definite descriptions, Ockham insists that the above mentioned sentences represent a figurative use of language by their authors and compares it to the license taken with language by poets and rhetoricians. The reason for this somewhat surprising move lies within Ockham's own logical theory. He will say that a proposition is taken literally (*de virtute sermonis*, according to the force of the words), only when it is analysed according to the rules he lays down in the *Summa logicae*. But in these rules, grammar and syntax are a controlling factor in determining how a term functions in the proposition. If a noun in the proposition has a certain syntactical relationship to the copula and to quantifiers (if any) such as 'every', 'only', 'no', etc., then it must be taken as purportedly standing for (denoting or supposing for) some thing or things and as standing for them in a certain way. If there is nothing that the noun could appropriately stand for, then the proposition in

question is false taken literally (see Part Two, chapter 11 below). Thus, according to Ockham's logical theory, propositions with the same grammatical structure have the same logical structure; and taken literally 'Generation is in an instant' will imply that one thing is in another, just as much as 'Water is in a vase' does. Thus, he says that 'Generation is in an instant' and 'Motion is in time' are false taken literally, but they are true when they are understood figuratively, according to the intentions of their authors.

In appealing to the traditional rhetorical distinction[18] between how a proposition should be understood taken literally and how it should be understood according to the intention of the author, Ockham is promulgating an exegetical tool that he will use to explain away many passages in which Aristotle, Averroes, and various Saints and authorities seem to agree with the moderns' position. Thus, he writes,

> ...All propositions such as 'Action is in the thing acted upon', 'Motion is in what can be moved', 'Similarity is in the similar thing', 'Whiteness is the term of motion', 'Everything is produced by production', 'Fire heats by heating', and innumerable other propositions of this kind that are found in the sayings of the philosophers, the Saints, and even in Sacred Scripture, ought to be explained away as figurative by means of some grammatical figure. Nor is there any difficulty in granting that the philosophers and saints spoke figuratively in this way, since many such figures are found in Sacred Scripture, not [only] taking the claims of Sacred Scripture in their spiritual sense, but also in their literal sense.[19]

According to a long-standing tradition, when the literal meaning of a sacred text seems frivolous or unworthy, devout but intelligent men are hard pressed to justify claiming that the author's assertion is true. Even before the birth of Christ, pious Greeks, struggling with the texts of Homer, and rabbis interpreting the Bible found a solution: viz., regard the literal sense

18. *Boethius's 'De topicis differentiis'*, trans. E. Stump, (Ithaca, NY, 1978), 84.

19. *Treatise on Quantity* I, q.1, (Birch ed., 42, 44); cf. q.3, (Birch ed., 124–26).

of the unworthy passages as a stumbling block for the low-minded and hardhearted, and discover a deeper and true sense by means of allegorical interpretation. Some early fathers of the Christian church, including Clement of Alexandria and Augustine, would have found certain Biblical passages an insuperable obstacle to their conversion had this technique not been used to find Platonizing philosophy beneath the veil of the literal sense. Using this method of exegesis, certain Neoplatonists "discovered" that Plato and Aristotle really did not disagree at all. And in the hands of Ockham and his contemporaries, Aristotle comes to hold as many different views as he has differing interpreters.

(d) Ockham thinks that even when the moderns did recognize that various parts of a proposition may function as connotative terms, they failed to appreciate the full range of ways in which connotation can vary the signification. As we shall see, many of their arguments in favor of assuming a distinct kind of entity for each of Aristotle's ten categories rest on their construal of Aristotle's remark in *Categories*, 5, 4a22ff that there can be no passage from contradictory to contradictory apart from any change, assuming the change must be the generation or corruption of some thing (*res*). More precisely,

> (A) Necessarily, if first *p* is true and then not-*p* is true, either something (*res*) has been produced in existence for the first time, or something that did exist has ceased to exist.

(A) makes two claims, the first of which is innocent:

> (B) Necessarily, the circumstances in which *p* is true are different from the circumstances in which not-*p* is true.

As Scotus explains,

> ...There is never a passage from contradictory to contradictory apart from any change (*mutatio*). For if there were no change in anything, there would be no more reason why one contradictory should be truer than the other. Thus, either both are simultaneously false or both are simultaneously true.[20]

20. *Ord.* I, d.30, q.1–2, n.41, (Vaticana VI, 186–87).

But (A) stipulates further that

(C) The difference between the circumstances in which *p* is true and the circumstances in which not-*p* is true is a difference in which things exist.

And behind (C) lies yet another (in Ockham's mind) pernicious semantic assumption. The truth of affirmative, non-modal, categorical propositions presupposes the existence of at least one of the entities signified directly by each term and at least one of the entities signified indirectly (if any) by each term. Thus, 'A horse exists' can be true, only if there is at least one horse; 'An animal exists' can be true, only if there is at least one animal; 'A horse is an animal', only if there is at least one horse and at least one animal; and 'A horse is white', only if there is at least one horse, at least one whiteness, and at least one thing that has whiteness. (C) assumes that the negation sign invariably has the effect of denying that all of the existential presuppositions of such propositions have been satisfied. And the latter assumes in turn that propositions can never differ in meaning without carrying different existential presuppositions. Of course, many propositions do seem to differ in meaning in this way: 'Cicero exists' and 'Socrates exists' are not synonymous because the former can be true only if Cicero exists and whether or not Socrates exists, but the reverse is true for the latter. 'Socrates is white' and 'Socrates is black' differ in meaning at least partly because the former presupposes the existence of at least one whiteness but no blacknesses, while the latter presupposes the existence of at least one blackness but no whitenesses. Analogously, it would seem that modal propositions such as 'It is possible that Socrates is white' and 'It is possible that Socrates is black' differ in meaning because they presuppose existence of different things.

Given this sort of analysis, it is easy to see how the moderns would conclude that 'Socrates exists' differs in meaning from 'Socrates is six feet tall' because the latter presupposes the existence of six-foot-tallness while the former does not; or that if this volume of gas is first five cubic feet and then six cubic feet,

this is because five-cubic-foothood has been corrupted and six-cubic-foothood has been produced. Again, it might seem that 'Socrates is spatially proximate to Plato' differs in meaning from the conjunction 'Socrates exists and Plato exists' because the former presupposes the existence of spatial proximity, a relative thing really distinct from either Socrates or Plato, while the conjunction does not.

Ockham maintains, on the contrary, that while implying or presupposing the actual or possible existence of different things is sufficient for a difference in meaning, it is not necessary. In the *Summa logicae* I, chapter 6, he explains that

> ...those are called synonyms that signify absolutely the same thing in every way, so that nothing is in any way signified by one that is not signified *in the same way* by the other...[21]

On Ockham's view, expressions may fail to be synonymous either because they do not signify the same things or because they do not signify them in the same way. For example, 'man' and 'men' signify altogether the same things, but 'man' signifies them together with singular number and 'men' together with plural number. Likewise, 'This air occupies five cubic feet' and 'This air occupies six cubic feet' presuppose the existence of exactly the same things, but the predicate of the former connotes that the parts of the air are spatially separated, and the predicate of the latter connotes that they are even further apart. Similarly, for 'Socrates is spatially proximate to Plato' and 'Socrates is spatially remote from Plato'. And in general, if terms may fail to be synonymous because, while they signify the same things, they signify them to be in different ways, propositions may also fail to be synonymous without presupposing the existence of different things because they presuppose the same things to be in different ways. Ockham would accordingly replace (C) with

(C′) Either the circumstances in which $p$ is true involve the

21. (OPh I, 19), (italics mine); cf. *Ord.* I, d.2, q.3, (OTh II, 88) and q.11, (OTh II, 365).

> existence of different things from those in which not-*p* is true or the circumstances in which *p* is true involve the existence of the same things in a different way from that in which they exist when not-*p* is true,

where 'in a different way' has adverbial force and ways are not to be reified.

Ockham grants (B) and concludes—with Aristotle in the *Categories*, 5, 4a22ff—that the proposition cannot be first true and then false without any change in reality. In *Categories*, 14, 15a13, however, Aristotle recognized six kinds of change: generation, corruption, increase, diminution, alteration, and locomotion. Having endorsed (C), the moderns conclude that the last four involve one of the first two. Having replaced (C) with (C'), Ockham denies that locomotion necessarily involves either generation or corruption, but thinks that alteration does, while increase and decrease reduce either to generation and corruption or to locomotion. Thus, he thinks there are at least three ways in which a proposition can change truth-value: through the generation or corruption of some thing (*res*) or through locomotion. He sometimes adds "or the actual or potential passage of time."[22] But since the actual or potential passage of time reduces, on Ockham's view, to the actual or potential occurrence of a complicated set of locomotions (see Part Four, chapter 19 below), we can represent his replacement of (A) by

> (A') Necessarily, if first *p* is true and then not-*p* is true, than either some thing (*res*) has been produced in existence for the first time, or something that did exist has ceased to exist, or some locomotion has actually (or potentially) occurred.

Locomotion without the generation or corruption of any things can, Ockham thinks, explain why this air first occupies five cubic feet and then occupies six cubic feet and why Socrates is

22. *Rep.* IV, q.6, (OTh VII, 85); *Ord.* I, d.30, q.2, (OTh IV, 328).

first spatially remote from and then spatially proximate to Plato. And once (A′) replaces (A) many of the moderns' arguments will lose their force.

## 3. OCKHAM'S RAZOR

It is one thing to charge that the arguments in favor of a position are unsound; it is another to offer some positive reason that it is mistaken. Ockham's most famous attempts to refute the ontology of the moderns rest on the principle of parsimony better known now as "Ockham's razor." Frequently, he formulates it as

(D) It is futile to do with more what can be done with fewer,[23]

or as

(E) When a proposition comes out true for things, if two things suffice for its truth, it is superfluous to assume a third,[24]

or as

(F) Plurality should not be assumed without necessity;[25]

while in his most explicit version it becomes

(G) No plurality should be assumed unless it can be proved

23. "Frustra fit per plura quod potest fieri per pauciora." Cf. *Treatise on Quantity* I, q.3, (Birch ed., 104) and *Treatise on Quantity* II, c.28, (Birch ed., 318).

24. "Quando propositio verificatur pro rebus, si duae res sufficiunt ad eius veritatem, superfluum est ponere tertiam." E.g., *Quodl.* IV, q.24, (OTh IX, 413).

25. "Pluralitas non est ponenda sine necessitate." Cf. *Ord.* I, d.30, q.2, (OTh IV, 322) and *Rep.* II, q.18, (OTh V, 404).

(a) by reason, or (b) by experience, or (c) by some infallible authority.[26]

This last expansion stipulates that there are only three justifications for proliferating entities, causes, or whatever: (a) that there is some theoretical or a priori argument for doing so; (b) that one cannot account for the facts of experience without doing so; or (c) that the Bible, the Saints, or certain pronouncements of the Church require that one do so.[27]

There is some puzzle as to why any of (D)–(G) should have come to be known as *Ockham's* razor.[28] He did not invent the principle; versions of it are found in Aristotle. Further, Ockham's most explicit comments regarding its justification or status are frustratingly scant. He was not the only medieval to invoke it, and he clearly does not regard it as his principal weapon in the fight against ontological proliferation; rather the Law of Noncontradiction is. Nevertheless, the label has a certain appropriateness in that, in comparison with his predecessors, Ockham's metaphysical conclusions are what one would expect from a philosopher who let (D)–(G) be his guide.

Notice that none of (D)–(G) makes any categorical assertion about what pluralities do or do not exist in reality. (D) and (E) express a negative evaluation of an agent and secondarily (in this context) of a theory that does with more what could be done with fewer. (F) and (G) express what we might regard as precepts of prudence or hypothetical imperatives to the effect that if you want to formulate a good philosophical theory, you should not assume pluralities without necessity. In Ockham's terminology, since all of these principles have to do with what is effectible by us, they would, if sound, be the objects of prac-

26. "Nulla pluralitas est ponenda nisi per rationem vel experientiam vel auctoritatem illius, qui non potest falli nec errare, potest convinci." Cf. *Treatise on Quantity* II, c.28, (Birch ed., 318); *Ord.* I, d.30, q.1, (OTh IV, 290); *Rep.* III, q.9, (OTh VI, 281) and IV, q.3–5, (OTh VII, 51–52).

27. Cf. *Treatise on Quantity* I, q.1, (Birch ed., 6) and *Treatise on Quantity* II, Prologue, (Birch ed., 158–160).

28. See Armand Maurer, "Method in Ockham's Nominalism," *Monist* 61 (1978): 426–443, especially 427–431.

tical, not speculative knowledge.[29] They are, in the first instance, methodological principles, and it is not obvious how they are related to truth or even to probability. As such, they could serve as the basis of pragmatic arguments about what it would be futile or superfluous to do, or what one ought to do, but not of demonstrations in speculative metaphysics about what entities really exist. In this, (D)–(G) contrast with

(H) No plurality exists which cannot be proved from reason, experience, or infallible authority,

and

(J) God never does with more what He could do with fewer,

which could serve as premisses in valid deductive arguments concerning what entities really exist.

What reason could there be for adopting any of (D)–(G)? If known to be true, (H) and/or (J) would provide excellent grounds for doing so. If there are no unnecessary pluralities in reality, then the most reasonable way for us to proceed is to search for a theory that assumes only those pluralities demanded by our experience and the best arguments we can think of, and to supplement it with any entities required by authorities known to be infallible. But (H) is scarcely plausible, if the experience in question is our experience. As subsequent philosophers have eloquently explained, our experience is very limited and for all we know unrepresentative. Why should there not be, in some far-flung corner of the next galaxy, pluralities of entities not known to exist by any a priori argument or necessary to explain our present experience? Ockham himself denies (J). Discussing the order of salvation ordained by God, Ockham asks whether the Holy Spirit Himself or only His gifts are given to believers. An objector contends that only His gifts are:

29. *Ord.* I, Prologue, q. 11, (OTh I, 315).

> ...it is futile to do with more what could be done with fewer. But it is sufficient for eternal life that the gifts of the Holy Spirit be given. Therefore, it is superfluous for the Holy Spirit Himself to be given.[30]

Ockham defends the opposite answer and replies that

> ...There are many things that God does with more that He could do with fewer. Nor should any other explanation be sought. And it follows from the fact that He wills it that it is fitting and not futile for it to be done. The matter is otherwise where natural and created voluntary causes are concerned. For these voluntary causes should conform themselves especially to right reason of the first [cause], and they do nothing justly or rightly otherwise.[31]

So far as the order of salvation is concerned, God does not abide by the principle of parsimony (see Part Five, chapters 30–31 below). And since whatever God wills is, for that reason alone, fitting, His action should not be called futile. Hence, (D) does not apply to God's actions and (J) is false.

Ockham's remarks in the last two sentences of the passage just quoted are terse, and it is not clear how much weight should be put on them. But they could be read as suggesting alternative reasons for endorsing (D)–(G). For Ockham comments that "the matter is otherwise where natural causes...are concerned." We may ask, what matter is otherwise? Not the conditions under which natural causes act rightly or justly, since as natural agents their actions are not the kind of thing that could be either just or unjust. The only alternative seems to be that whereas in the order of salvation God does with more what He could do with fewer, He has dealt otherwise with the order of natural causes, with the result that they never do with more what they could do with fewer. If these are God's policies, then it would be reasonable to try for the most economical theory regarding the natural order and rely on the authorities for information concerning the exceptions made in the order of salvation. Nevertheless, these claims about God's behavior could

30. *Ibid.*, d.14, q.2, (OTh III, 430).
31. *Ibid.*, (OTh III, 432).

provide us with a reason for endorsing (D)–(G), only if we could know or have good reason to believe that He has dealt with the world in this way, prior to having reason to endorse (D)–(G). But Ockham does not think that we could. Indeed, he thinks there is very little that unaided natural reason could prove about God's policies.

Ockham's comment about created voluntary causes is more ambiguous. He could simply be repeating a central tenet of his ethical theory: viz., that while whatever God wills is just or right simply because He wills it, the action of a created will is just or right only if it conforms to the standard laid down by God (see Part Five, chapter 30 below). On the other hand, he could be making a more specific claim: viz., that while God's action will be just and right even if He does with more what He could do with fewer, the action of a created will would not be just and right if it did so, because the action of a created will is right only if it conforms to the dictates of right reason and right reason stipulates that one should not do with more what one could do with fewer. On this latter, more speculative interpretation, Ockham would be claiming that it is a dictate of right reason that we should not do with more what we could do with fewer and that is why we should adopt (D)–(G). In any case, it should not be surprising if Ockham failed to provide any extensive justification for (D)–(G); contemporary philosophers of science are convinced that simplicity is a legitimate criterion against which to judge the adequacy of theories, but they are hard pressed to explain why or even to say what they mean by simplicity!

In at least one place, Ockham implies that (F)—and therefore, presumably, (D), (E), or (G)—cannot be the basis of a demonstration. For he contends that it cannot be demonstrated either that the matter of the heavens is or that it is not of the same kind as the matter of things here below. Nevertheless, he thinks the following "persuasive argument" can be given:

> ...plurality should never be assumed without necessity, as has often

> been said. But now there is no apparent necessity in supposing that the matter here and there are of different kinds. For whatever can be saved by different kinds of matter can be saved equally well or better by matter of the same kind.[32]

One reason why (F) cannot serve as the basis of a demonstration has already been mentioned: viz., that it is a principle of prudence expressing a hypothetical imperative about what one ought to do. A second reason is that demonstration requires premisses that are known to be necessary. But one premiss of the arguments based on (D)–(G) will assert that neither reason, nor experience, nor any infallible authority requires such and such a plurality. It is in principle possible to know which experiences we have had and what is required by the pronouncements of the Church. But it seems that we could not be certain that no reason required such a plurality unless we had discovered an independent demonstration that its existence was impossible.

Whether or not a plurality is necessary depends in part on what basic metaphysical principles are true. In arguing against the moderns' position, Ockham sometimes sets out to show that they have overestimated the ontological commitments required by their own basic tenets. Such an argument might well persuade them to give up an hypostatization, since it would cost them nothing in terms of the fundamental theses of their position. Other times, however, what Ockham actually shows is that it is possible to construct a consistent theory that is not contrary to experience or any infallible authorities and that avoids the hypostatization, if one relinquishes or replaces some part of their position. As we shall see in the next two chapters, Ockham does not always bother to distinguish the two sorts of arguments, probably because he thinks he has offered independent reasons for thinking his opponents' theses false or mutually incompatible.

32. *Rep.* II, q.18, (OTh V, 404).

## 4. NO ACTUAL INFINITY OF SIMULTANEOUSLY EXISTING THINGS

Not to be confused with arguments based on Ockham's razor, are his attempts to show that the opponents' theory commits them to an actual infinity of simultaneously existing things (*res*) that do not combine with one another to make something one *per se* (the way the infinitely many actual parts of a continuum do; see Part One, chapter 6 and Part Four, chapters 16, 19, and 20 below). For Ockham seems to have held that an actual infinity of simultaneously existing things was not only theoretically superfluous, but logically impossible. For example, in *Quodlibeta* III, q.1, Ockham considers the following purported proof that God's power (*virtus*) is intensively infinite (see Part Five, chapter 29 below): "that which *of itself* can produce infinitely many simultaneously is infinite; but God is of this sort; therefore, etc."[33] Ockham replies that the implication that something of itself could produce infinitely many simultaneously is false "because it involves a contradiction."[34] And he remarks that "if there were infinitely many that could be produced simultaneously, then God could produce them simultaneously. But the antecedent involves a contradiction."[35] Again in his proof that there is a first conserving cause (see Part Five, chapter 22 below), Ockham insists that there can be no infinite chain of simultaneously existing conserving causes, because "then there would be infinitely many actually existing —which is impossible."[36]

This thesis—that an actual infinity of simultaneously existing distinct things is impossible—was as commonplace among thirteenth and early fourteenth century Aristotelians as its motiva-

33. (OTh IX, 201).
34. *Ibid.*, (OTh IX, 204).
35. *Ibid.*
36. *Quaest. Physicorum*, q.136, in Boehner's edition in *Ockham: Philosophical Writings*, (Edinburgh and London, 1962), 123.

tion is obscure. (a) One hypothesis focuses on an argument from Aristotle's *Physics*. Having identified number with the things numbered, Aristotle contends that it is impossible that there should actually be an infinite number on the ground that "every number is either actually numbered, or it is possible that it should be actually numbered": e.g., if there is a number of people in this room, either someone has actually counted them, or it is possible that someone should actually count them. Thus, "if there were an infinite number, it would be possible for an infinity to be actually numbered." But Aristotle denies that this is possible, because we could never finish counting infinitely many things.[37] But even if it were true by the Aristotelian definition of 'number' that any number is in principle countable and finite, it would not follow that there could not be infinitely many actually existing things at once. The most that would follow is that this would not count as *a number* of things. In any event, it would be infelicitous of Ockham to endorse such an argument. For if the alleged fact that infinitely many things could not be counted makes it impossible for them to exist simultaneously in reality, why should it not be enough to prevent them from all having objective existence at once as objects of God's thought? Yet, so long as he held the objective-existence theory, Ockham insisted that infinitely many do (see Part Five, chapter 24 below).

(b) Another suggestion comes from Anneliese Maier,[38] who claims that in denying the possibility of an actual infinity of simultaneously existing things, Ockham understands infinity as a maximum (*tantum quod non maius: tot quod non plures*). For example, in *Ordinatio* I, d.17, q.8, he comes out against not only an intensive infinity but also against an actual infinity of quantity and numbers, on the ground that God cannot make an

37. *Expos. Physicorum* III, t.41, (OPh IV).

38. "Diskussionen über das Aktuell Unendliche in der Ersten Hälfte des 14. Jahrhunderts," *Ausgehendes Mittelalter*, (Rome, 1964), vol.I, 41–85, especially 59–62.

infinitely great fire or infinitely many individuals of the same species, although no matter how great a fire He has made, He can make a greater; and no matter how many individuals of the same species He has made, He can make one more.[39] According to Maier, his underlying thought is that making infinitely many (i.e., the maximum possible) would exhaust God's power—which is impossible.

The whole question is muddied further by the fact that—his frequent appeal to the "no actual infinity" principle notwithstanding—in his disputed question,[40] Ockham joins some of his contemporaries in seeing no contradiction in an actual infinity of souls or *passiones animae* and freely admits that if the world were eternal, there would have been twelve times as many revolutions of the moon as of the sun, although infinitely many of each; that the time elapsed from eternity until this morning is less than that plus the time elapsed from yesterday until this evening; that there are twice as many parts in the whole line as in half the line, etc. Maier thinks this apparent contradiction is easily resolved on the assumption that Ockham is here conceiving of infinity not as a maximum, but as "transfinite" or "what exceeds anything finite beyond any determinate proportion," a conception which allows some infinities to be greater than others as modern mathematics claims.[41]

The textual picture is far more complicated than Maier lets on, however, and it is too much to say that Ockham anticipated the contributions of modern mathematics. Nevertheless, there are many passages in which Ockham denies all infinities are equal, but for different reasons in different places. (i) In his disputed question,[42] he allows not only that some infinities are

39. (OTh III, 550).
40. *Quaest. variae*, q.3, (OTh VIII, 68).
41. *Op. cit.*, 61–62.
42. *Quaest. variae*, q.3, (OTh VIII, 59–97).

unequal to others, but that there is a determinate proportion between them. Even if the world were eternal, there would be twelve times as many revolutions of the moon as of the sun and yet infinitely many of each. (ii) In *Quodlibeta* II, q.5, he reconsiders these two examples and explains that there are two ways in which 'more' and 'equal' can be taken. In one way $x$ is said to be more than $y$ because there are as many of $x$ as of $y$ and a determinate number more of $x$. Likewise, $u$ is said to be equal to $v$ because there is a determinate number in $v$ and that number and not more are in $u$. Understood in this sense, it is not true that one infinity is either more than or equal to another, because no infinity constitutes a determinate number and none exceeds the other by a determinate number. Taken another way, $x$ is said to be more than $y$ because there are as many of $x$ as of $y$ and then some (but not a determinate number) more; and $u$ is said to be equal to $v$ when $u$ includes as many as $v$ and no more. This way there would be more revolutions of the moon than of the sun, even if the world were eternal; and there are more parts in the whole of a line than in each half; and there are equally many parts in each of the halves. But in the former two cases, there is not a determinate number more; and in the last, not an equal number.[43]

(iii) In *Quaestiones in libros Physicorum*, q.70 and *Expositio in libros Physicorum* VI, t.79, Ockham does not distinguish senses of 'equal' but comments that equal and unequal are properties of finite numbers only, and concludes that the parts in half of a line are neither equal nor unequal to parts in the whole line. He allows that among infinities, "some are more than others when those from one part include those from another part and then some, and not vice versa," but denies that one infinity is more than another in the sense that "there is a certain number of these and a certain number of those" and the one is greater than the other.[44]

43. (OTh IX, 132–34).
44. *Ibid.*, (OPh VI and V).

(iv) In *Quaestiones in libros Physicorum,* q.7, Cod. Dom. 307, attributed to Ockham,[45] the author maintains that no multitude exceeds *infinities infinita*, and hence that it cannot be true to say that the parts of the whole line exceed those in part of the line; there are *infinities infinita* of both. He denies that the collection of couples exceeds the collection of unities, and denies that if the world were eternal, there would have been twelve times as many revolutions of the moon as of the sun—all of this on the ground that one infinity does not exceed another because they are beyond any determinate proportion. Nevertheless, the author allows[46] that part/whole relationships can obtain among infinities. For he allows that if God destroyed the parts in half of a line, He could not destroy more parts; but He could still destroy the parts in the other half. It is just that if He does, He will not have destroyed more by any determinate number.

It seems doubtful that Ockham's vacillation can be explained simply in terms of an equivocation on the word 'infinity', however. For in *Quodlibeta* II, q.5, he considers the objection that if the world were eternal, it would follow that "infinitely many can exist in act, as is clear if on each past day God had created one intellectual soul,"[47] and he offers two ways of responding: "first that it can be granted according to the way that infinitely many can exist in act. Otherwise, it can be said that this is not possible."[48] And he explains that the latter who deny the possibility of an actual infinity, can say that 'On each of infinitely many days God can produce a soul' is true in the sense of division, but not in the sense of composition; for each

45. F. Corvini, "Le 'Quaestiones in libros Physicorum' nella formazione del pensiero di Guglielmo d'Occam," *Rivista critica di storia della filosofia* XII (1957): 387–411.

46. Ockham does also in *Quodl.* II, q.5, (OTh IX, 132); *Quaest. Physicorum*, q.70, (OPh VI); and *Expos. Physicorum* VI, t.79, (OPh V).

47. (OTh IX, 129).

48. (OTh IX, 131).

day is a day on which He could have begun to produce intellectual souls.[49] If the alternative replies contradict one another, they must mean the same thing by 'infinite'.

If Ockham's understanding of and reasons for the "no-actual-infinity" principles are unclear, its role in his arguments against the moderns is prominent. And it is to a more detailed examination of these that we now turn.

# 6

# Quantity

## 1. ORIENTATION

When Descartes proclaimed that extension was the essence of body, he was advancing what was—from a medieval point of view—a radical reductionist position. Influenced by Aristotle, medievals thought the metaphysical structure of bodies much more complicated. First there was the substance which was composed of prime matter and substantial form (see Part Four, chapter 16 below); then there were various accidents, chief among which were quantity (including extension) and the sensible qualities such as color, flavor, odor, temperature, texture, etc. Descartes, in effect, eliminates prime matter and identifies the substantial form with one of the Aristotelian accidents, while explaining the other accidents away as unreal but apparent due to the confused ideas resulting from certain interactions between mind and body. His bodies are abstract mathematical images of their medieval predecessors.

For medievals, extension was merely an accident in the more inclusive Aristotelian category of quantity. Aristotle distinguished between continuous quantity, whose parts meet in a common boundary, and discrete quantity, whose parts do not meet in a common boundary. The former includes lines, whose parts meet in a point; surfaces, whose parts meet in a line; solids, whose parts meet in a line or surface; and time, whose past and future meet in the present instant. The latter includes number and, more surprisingly, speech, whose syllables are measured as long and short! I will pass over discrete quantity altogether and reserve the discussion of time for a later chapter. Here I will focus exclusively on the discussion of continuous permanent quantity—extension in one, two, or three dimensions. Accord-

ing to Aristotle and his medieval followers, some substances were by nature apt to have the accident of extension—viz., the ones we call bodies—and others such as angels were not. Ockham represents Aristotle as holding that whatever substance is apt to have this accident, necessarily has it, even though extension is not one of its defining properties.[1]

The most important feature extension has for Aristotle is that it is continuous, in the sense that it is composed of parts that meet in a common boundary, whose ends "touch" in the sense of being located in altogether the same place. Thus, line segment *a* is continuous with line segment *b*, because an end point of *a* (call it *c*) "touches" in the sense of existing in exactly the same place as an end point of *b* (call it *d*) —that is, because *c* and *d* exist in exactly the same point.[2] Given this definition of 'continuous', Aristotle finds it easy to argue that what is continuous cannot be composed of indivisible parts. For example, a given line segment could be made up of indivisible parts (in this case points), only if the points had ends that touched one another. But since points are indivisible, they do not have ends as distinct from other parts. If they "touch" one another, the whole of the point must be in exactly the same place as the whole of the other point. And no matter how many points we try to bring into contact with that point, we will never get the line extended beyond that point.[3] Analogously for surfaces and solids.[4] Consequently, Aristotle concludes that "anything continuous is divisible into parts infinitely divisible."[5] Medievals took over this doctrine from Aristotle, and Ockham makes a good deal of use of it in his arguments below.

When Locke examined the content of our idea of body, he found it to contain not only three-dimensional extension, but also impenetrablility, the tendency of a body to expel or prevent other bodies from entering or occupying the same space as

1. *Summulae Physicorum* I, c.19, 24, (OPh VI).
2. *Physics* V, 3, 227a10.
3. Cf. Ockham's *Expos. Physicorum* IV, t.1–3, (OPh V).
4. *Physics* V, 3, 227a10.
5. *Ibid.* VI, 1, 231b6–18.

it does. Impenetrability is supposed by Locke to be one of those features that distinguishes bodies from empty space, which is extended in three dimensions but not impenetrable. Aristotle, by contrast, had argued that a void is impossible.[6] And many medievals understood him to be asserting that impenetrability is a logically necessary side effect of the accident that extends bodies in three dimensions. Giles of Rome gives clear expression to this notion in his commentary on the *Physics*:

> ...a body does not occupy a place and resist another body because of its attributes, such as that it is hot or cold, heavy or light. Rather this pertains to a body because of its dimensions. For dimensions are incompatible with other dimensions through themselves, because dimensions cannot coincide with other dimensions. For if dimensions could coincide with other dimensions, it would be impossible to give a reason why two bodies could not coincide.[7]

A few dissented from this majority opinion and held that impenetrability was due to a distinct accident, which they referred to as the corpulence or the grossness (*grossities*) of a body.

Equally, many medievals thought that the accident which extends a body in three dimensions necessarily contains it in a single place. For they insisted that it was logically impossible for a single body to occupy discontinuous places simultaneously. This intuition lies behind Boethius's argument (see Part One, chapters 1 and 2 above) that genera and species cannot be numerically one, since each exists (or can exist) wholly and completely in numerically distinct things simultaneously. And combined with the above mentioned thesis—that two bodies cannot exist in the same place at once—it might seem to give

6. *Ibid.* IV, 7–9.

7. IV, t.76, (Venice, 1502), translated from the quote in Anneliese Maier, "Das Problem der Quantität oder Räumlichen Ausdehnung," *Metaphysische Hintergründe der spätscholastischen Naturphilosophie*, (Rome, 1955), 141–224; cf. 148. This excellent article outlines the history of the dispute about extension and impenetrability complete with extensive quotations. According to Maier, the above mentioned interpretation of Aristotle began with Averroes and was endorsed by Albert the Great, William of Ware, and Richard Middleton among others (147–152).

support to Aquinas's idea that matter signed by quantity is the principle of individuation for material substances (see Part One, chapter 2 above and Part Four, chapter 16 below). For reasons that we shall partly explore later, Ockham rejected both the claim that it is logically impossible for two bodies to be extended in the same place at once, and the assertion that it is logically impossible for a single body to exist in two discontinuous places at once.[8]

For medievals, it is not only the substance of body that is extended, however; so are many of its qualities. Socrates' whiteness is extended in exactly the same place at any given time as Socrates is. But if it is logically impossible for two sets of dimensions to coincide, as many of them believed, it must be that the dimensions of Socrates' qualities are the same as the dimensions of his substance. For this reason among others, many concluded that the quantity must inhere directly in the substance and the other accidents directly in the quantity.

The ontological question here is whether the accidents of continuous quantity by which bodies are extended are things (*res*) really distinct from substance and qualities. Aquinas and Scotus assumed that they were; while Peter Olivi (ca. 1248–1298) "recited" without explicitly asserting the opposite view, which Ockham later defended. Richard Middleton (fl. 1286) argued for Aquinas's position against Olivi, and Ockham's contemporaries Walter Burleigh, Franciscus de Marchia, and John Buridan joined forces against him.[9] In the remainder of this chapter, I will examine some of the issues—metaphysical, theological, and physical—that divided them on this ontological question. The problem is multifaceted; and the debate is not so conclusive as either side would have liked.

## 2. THEORETICAL ARGUMENTS

Defenders of the thesis that continuous, permanent quantity

8. Cf. *Rep.* IV, q.6 (OTh VII, 97–98).
9. Cf. Maier, *op. cit.*

is a thing really distinct from substance and quality, respectively, thought that this could be established conclusively on the basis of theoretical considerations in at least three ways. (2.1) In one group of arguments, Richard Middleton contends that the opposite would destroy the distinctions among Aristotle's ten categories. For to each distinct category, there corresponds a distinct sort of thing. But if quantity is not really distinct from substance and quality, respectively, then it is really the same. Thus, one and the same individual would be *per se* and essentially a substance and *per se* and essentially a quality—both of which are impossible if substance, quantity, and quality are three distinct categories as Aristotle says they are. Alternatively, if quantity is really the same as substance and quality, respectively, then, by the Indiscernibility of Identicals, whatever is truly asserted about one is truly asserted about the other. But the length and width of a volume of fire are of the same species as the length and width of a volume of air, because such lengths and widths fall under the same species of quantity. If the length and width of fire is really the same as the fire, and the length and width of the air is really the same as the air, it will follow that air and fire are of the same species. On the other hand, starting with the premiss that air and fire are elemental substances of different species, we will have to conclude that the length and width of the fire is of a different species from the length and width of the air—which seems equally absurd.[10]

10. According to Maier, *op. cit.*, 157–58, Richard Middleton raises such arguments against a position recited by Peter Olivi. She is convinced that Ockham was conscious of the similarities between his and Olivi's positions and was trying to defend his own theory by rebutting Middleton's criticisms of Olivi (181–86). Ockham cites the arguments that "...No accident is the same as substance. But every quantity is an accident, since it is in a category of accident..." (*Quodl.* IV, q.25, (OTh IX, 416)) and "Aristotle lays down nine categories of accidents among which he numbers quantity. Therefore, quantity is a distinct category and consequently has its own individuals..." (*ibid.*, q.27, (OTh IX, 434); cf. *Rep.* IV, q.6, (OTh VII, 81). Likewise, he lists the argument that "...It is impossible for the same thing to be *per se* an individual of substance and an individual of quality. Therefore, it is impossible for the same thing to be *per se* an individual of substance and an individual of quantity. The premiss is true and the inference is clear, because quantity is just as

(2.2) A second sort of argument rests on the assumption discussed in chapter 5 above, that

(A) There can be no passage from contradictory to contradictory without the generation or corruption of some thing (*res*).

Focussing on the matter of the body of Christ that exists unextended in the Eucharist (see section 4 below), they reason that it is possible for matter to be first not extended and then extended apart from the generation or corruption of any substance, or any part of substance (whether of the matter or of the substantial form), or of any quality. Consequently, there must be some other thing—a quantity—that is really distinct from substance, the essential parts of substance, and quality, which is generated or corrupted when 'Matter is extended' or 'Matter is not extended' changes truth-value.[11] A similar argument could be given for changes in the truth-value of propositions such as 'This volume of fire occupies four cubic feet'.

(2.3) Some of Olivi's and Ockham's opponents held that it is logically impossible for two bodies to be extended in the same place at once. But all thought that this was naturally impossible, and regarded this consideration as an insurmountable objection to the view that quantity is nothing really distinct from extended substance and extended quality:

> ...It is impossible in the natural course of things for two bodies to exist in the same place at once. But substance and quality exist at the same place at once. Therefore, if each is a quantity and a body, then two bodies would exist in the same place at once. Indeed, as many bodies would exist naturally in the same place at once as there are natural

essentially predicted of its individuals as substance or quality of its individuals" (*Quodl.* IV, q.25, (OTh IX, 417–18)). According to Maier, this argument was also used by Richard Middleton against Peter Olivi (*op. cit.*, 157) and is cited together with Ockham's reply to it by Franciscus de Marchia (202).

11. *Rep.* IV, q.6, (OTh VII, 81).

> qualities existing simultaneously together with substance—say flavor, color, odor, sweetness, heat, etc.[12]

Likewise, on Ockham's view, the prime matter and the substantial form of a substance would each have its own extension and be quantified. "...Therefore, either one thing cannot be made from them, or two quantified things will have one and the same place."[13]

Ockham's opposition to the *a priori* principles on which the first two sets of arguments rest runs as deep as any philosophical disagreement can go. (R2.1) Ockham is in sympathy with the desire to preserve the distinctions among Aristitle's ten categories. But where arguments of the first group assume that distinctions among the categories are at bottom distinctions among kinds of things, Ockham insists that they are distinctions among kinds of names and ways of signifying:

> ...I maintain that substance, quality, and quantity are distinct categories, although 'quantity' does not signify any absolute thing distinct from substance and quality. For they are distinct concepts and spoken sounds that signify the same things in different ways; and because they signify them in different ways, they are not synonymous names. For 'substance' signifies all of its significata in one way—namely, directly; 'quantity' signifies the same thing in a different way—namely, it signifies the whole directly and its parts obliquely, since it signifies the whole substance and connotes that it has one part at a distance from another. Likewise, for quality...[14]

If 'quantity' were an absolute term the way 'substance' and 'whiteness' are, then Middleton's arguments would pose serious

12. *Quodl.* IV, q.25, (OTh IX, 417); *Treatise on Quantity* I, q.3, (Birch ed., 118–19); *Treatise on Quantity* II, c.40, (Birch ed., 472–75). This objection was raised against Olivi by Richard Middleton; and it is repeated with Ockham's reply by Franciscus de Marchia; cf. Maier, *op. cit.*, 158, 163 and 203.

13. *Rep.* IV, q.6, (OTh VII, 82).

14. *Quodl.* IV, q.27, (OTh IX, 436); cf. V, q.22, (OTh IX, 566); *Rep.* IV, q.6, (OTh VII, 71–72, 84); *Summa logicae* I, c.44, (OPh I, 136–37); *Treatise on Quantity* I, q.3, (Birch ed., 94–96); *Treatise on Quantity* II, c.35, (Birch ed., 428–435).

difficulties. If the concept of $F$ is an absolute concept, then it is true of any individual thing $x$ that falls under the concept of $F$, that $x$ is essentially $F$. Thus, if both the concept of substance and the concept of quantity were absolute concepts, then any individual thing $x$ that simultaneously fell under both would be both essentially a substance and essentially a quantity. But where the concept of $F$ is a connotative concept, it is not true in general that what in fact falls under the concept of $F$ is essentially $F$. Ockham maintains that the concept of quantity is a connotative concept that signifies a substance or quality directly and connotes that their parts exist in a certain way; yet he disagrees with Aristotle in thinking that anything that falls under that concept could exist without falling under that concept.[15] Thus, Ockham's claim that quantity is not really distinct from substance or quality reduces to the thesis that really the same thing simultaneously falls, or is apt to fall, under the absolute concept of substance or quality and the connotative concept of quantity. And we can say that this thing is in two categories at once, if this is all we mean by it. But it will not follow further that one and the same individual $x$ is both essentially a substance and essentially a quantity or both essentially a quality and essentially a quantity. Further, Ockham sees no difficulty in saying that while air and fire "are of different species in the genus of substance," "the length of the fire and the length of the air which are not distinct from the fire and the air, [respectively], are of the same species in the category of quantity."[16] For although the thing that is fire is of a different kind from the thing that is air, they have their respective parts at a distance from one another in the same sort of way.

(R2.2) Ockham's reasons for rejecting (A) and replacing it with

(A′) Necessarily, if first $p$ is true and then not-$p$ is true, then either some thing (*res*) has been produced in existence for the first time, or something that did exist has ceased

15. *Rep.* IV, q.6, (OTh VII, 78).
16. *Quodl.* IV, q.25, (OTh IX, 417).

to exist, or some locomotion has (potentially or actually) occurred

have already been examined in some detail in chapter 5 above. But while the importance of this move should not be underestimated, it will erode the opponents' present argument only if (A') does not sustain it as well as (A) does. Ockham argues that it will not. We can explain why 'Matter is not extended' is first false and then true by a locomotion of the parts of matter in which they come to be at a distance from one another after not being at a distance from one another. Likewise, 'This fire occupies four cubic feet' can be first true and then false if its parts are first at a certain distance from one another and they by locomotion come to be at a greater or lesser distance from one another.[17] This contention of Ockham's was contested in a lively debate over how to explain the phenomena of condensation and rarefaction, which will be examined in section 3 below.

(R2.3) Ockham finds it undiscriminating of his opponents to lump all the cases of extended things together under one general prohibition: that it is naturally impossible for two bodies to be extended in the same place at once. For "although any dimensions could exist in the same place by divine power," it is not even naturally "incompatible with all dimensions to exist in the same place at once."[18] It would be naturally impossible for "dimensions that can naturally subsist through themselves"—i.e., for two extended substances—to exist in the same place at once.[19] Likewise, it is naturally impossible for "...many accidents of the same species to exist in the same place" at once.[20] But where one extended thing is naturally apt to combine with the other extended thing in such a way as to make something one *per se*, as prime matter and substantial form are, or one *per accidens*, as a substance and its qualities are; or where a number of extended qualities are apt to

17. *Rep.* IV, q.6, (OTh VII, 78–79).
18. *Treatise on Quantity* II, c.40, (Birch ed., 472–74).
19. *Ibid.*
20. *Rep.* IV, q.6, (OTh VII, 87–88).

simultaneously inhere in the same substance, as the color, flavor, odor, temperature, etc. are, then it is not impossible for those really distinct things to be extended in the same place at once.[21]

## 3. THE DEBATE OVER CONDENSATION AND RAREFACTION

Richard Middleton not only thought that the real distinction of quantity from substance and quality could be proved *a priori*, he maintained that its denial is "contrary to our experience" of condensation and rarefaction.[22] Ockham records the following version of this argument from Pseudo-Campsall:

> ...experience teaches that something is lost in condensation. But not substance or quality, according to the Philosopher in Book IV of the *Physics*. Therefore, a quantity is corrupted and not the substance [or quality]. Therefore, they are really distinct...[23]

Ockham counters that "this experience tells in the opposite direction."[24] Thus, both parties purport to subject the other's metaphysical theory to an empirical test.

To speak of rarefaction and condensation in contrast to growth and decline, is to presuppose something that Ockham never makes explicit: viz., that we have some measure of the amount of a substance or quality that is independent of its extension. Franciscus de Marchia proposes to label the former "the quantity of the mass" (*quantitas molis*) of a substance or quality and to regard extension as a variable mode of that property.[25] Growth is a change in which new parts of the substance or quality are added to the so-called "quantity of its

21. *Ibid.*; *Quodl.* I, q.4, (OTh IX, 28); *Treatise on Quantity* I, q.3, (Birch ed., 140–43); *Treatise on Quantity* II, c.40, (Birch ed., 472–74).

22. Cf. Maier, *op. cit.*, 157.

23. *Quodl.* IV, q.25, (OTh IX, 417); cf. *Treatise on Quantity* I, q.3, (Birch ed., 116–19).

24. *Quodl.* IV, q.25, (OTh IX, 420).

25. Cf. Maier, *op. cit.*, 142, 206.

mass"; decline, one in which such parts of substance and quality are lost. By contrast, in rarefaction and condensation, "the quantity of the mass" remains constant: parts of the substance or quality are neither added nor lost. Rather the extension of that quantity is increased or decreased, respectively. The question at issue is whether such a change in extension involves the generation or corruption of any thing (*res*) that is really distinct from substance and quality and that serves as a mean between them, inhering directly in substance and having the qualities inhere in it.

Ockham argues that an affirmative answer combines with two generally accepted principles to yield a result contrary to experience. The first is the claim that

(B) Accidents do not migrate from subject to subject.

Ockham joined his predecessors and contemporaries in endorsing and attributing to Aristotle the belief that accidents as well as substances are individuated. Thus, there are not only particular shades of whiteness, but particular instances of a given shade. Some, including Aquinas, took (B) to be a necessary truth, "since the subject is the principle of individuation of the accidents."[26] What makes the whiteness in this wall numerically distinct from the whiteness in that wall, is that the former inheres in this wall and the latter inheres in that wall. For Aquinas, it is logically impossible that *numerically* the same whiteness inhere in numerically distinct subjects simultaneously. And it is also logically impossible that numerically the same whiteness that now inheres in this wall should at any time "migrate" over to that wall and inhere in it instead. Ockham, of course, could not have had this reason for regarding (B) as a necessary truth. For he denies that anything is individuated by something extrinsic to it (see Part One, chapter 2 above). And he thinks that individual qualities could retain their individuation when separated from any and every subject of inherence. But Ockham does agree that it is naturally impossible that numerically the

26. *Summa theologiae* III, q.77, a.2; cf. a.1.

same thing should inhere in first one subject and then another.[27] And since condensation and rarefaction are natural phenomena, no adequate account of them will violate (B). (Of course, this does not mean that the whiteness that now inheres in a board and not in a table could not come to inhere in a table—say, when the board is used to make a table. But this apparent counterexample to (B) would be explained away by distinguishing the first subject of inherence—that in which the form inheres in the first instance—from the subject of inherence broadly speaking. In this case, the board or its surface is the first subject of inherence for the whiteness; the table is its subject of inherence only in an extended sense.)

The second principle assumes a distinction between two ways in which one thing may be in another: a thing is definitively in another if it is whole in the whole and whole in each part; circumscriptively in another, if it is whole in the whole and part in the parts.[28] It is then maintained that

(C) One thing exists circumscriptively in another, only if there is a proper proportion between them.

Scotus and Ockham take (C) to imply that in circumscriptive inherence the subject can be no more complex than what inheres is. Thus, a simple thing that has no parts can exist in a composite subject only definitively. (This is the way the intellectual soul exists in the body; see Part Four, chapter 15 below.) And where a form inheres circumscriptively in a complex subject, there must be at least one part of form for every part of the subject of inherence. Ockham thinks that if the form in question is of a property that can be had in more or less intense degree, then more than one part of the inherent form can exist in the same part of its first subject. For example, a physical object may be white in a less intense degree when one part of whiteness inheres in each part of the physical object, and white in a more intense degree when more than one part of whiteness inheres in

27. *Treatise on Quantity* II, c.18, (Birch ed., 254–55).
28. Cf. *Rep.* IV, q.6, (OTh VII, 65); *Quodl.* IV, q.21, (OTh IX, 400–401).

each part of that object. But since a thing cannot be more or less a man or any other sort of substance, there can be only one part of substantial form for each part of the matter in which it inheres.[29]

Given (B) and (C) and focussing on condensation and rarefaction, Ockham hopes to convince us of the absurdity of saying that quantity is a thing really distinct from substance and serves as a mean between them. I think we can readily grasp the strategy of these arguments by focussing on an example.[30] Suppose, for the sake of argument, that there are ten quarts of air to start with. According to the theory Ockham is opposing, the air is ten quarts full because there is something that is really distinct from the substance of the air—call it the form of ten-quarthood—that inheres in the substance of the air and extends it throughout a ten quart volume, and that serves as a mean between the substance of the air and its qualities. Now suppose that the air is rarified until it occupies an eleven quart volume. Either the whole of the form of ten-quarthood is corrupted in this process, or it is not. Ockham's opponents presumably wanted to say that when air is rarified from ten quarts to eleven quarts, the whole form of ten-quarthood is corrupted and a new form of eleven-quarthood is produced in the air. Ockham charges that this assumption has absurd consequences on their view. For they hold that the form of ten-quarthood is at first the subject in which the qualities of the air directly inhere. Given (B), however, it is impossible for numerically the same qualities to inhere first in the form of ten-quarthood and then in the form of eleven-quarthood. Consequently, if they say that the whole form of ten-quarthood is corrupted in the rarefaction of the air, they will have to admit that all of the qualities of the air are

29. *Ord.* I, d.17, q.7, (OTh III, 538).

30. Ockham offers such arguments as Aristotle's in *Summa logicae* I, c.44, (OPh I, 132–33) and on his own behalf in *Ord.* I, d.17, q.7, (OTh III, 538–39); *Treatise on Quantity* I, q.3, (Birch ed., 114, 132); *Treatise on Quantity* II, c.22, (Birch ed., 280–82) and c.34, (Birch ed., 408–414) and c.37, (Birch ed., 452–58); *Quodl.* IV, q.25, (OTh IX, 418–424) and q.28, (OTh IX, 441–45); *Summulae Physicorum* III, c.12, 62–63, (OPh VI).

destroyed as well. In fact, since the rarefaction of the air from a ten quart to an eleven quart volume is continuous, the air will successively assume infinitely many different volumes; and they will be committed to the consequence that infinitely many quantities and qualities are generated and corrupted during the interval in which the air is rarified from ten to eleven quarts. The same conclusion will follow if only part of the form of ten-quarthood is corrupted—say a one-quarthood part—and replaced with a new one—say a two-quarthood part.

The other possibility is that the form of ten-quarthood is not corrupted, whether wholly or partly, but a new part of quantity—a new one-quarthood—is added to the already quantified substance. Ockham asks what the first subject of this new one-quarthood could be. On the one hand, he reasons that there is no more reason why one part of the air should receive the new one-quarthood than the other. Therefore, either all would receive a new one-quarthood—which is impossible, in part for the reasons just given—or none would. Even leaving this objection aside, Ockham's opponents would be hard pressed to give a satisfactory answer. For each of the ten equal parts of the air already has a part of the quantity—say a one-quarthood—inhering in it. By (C), we cannot say that any part of the air comes to have two one-quarthoods inhering in it, because filling a one quart volume is not a property that can be had in more or less intense degrees. The only way for the new one-quarthood to inhere in the air would be for it to displace one of the old one-quarthoods. But this is doubly impossible. First, because then the qualities of the air that inhered in the old one-quarthood would be corrupted and new ones would be generated. Second, because then the old one-quarthood would exist without inhering in any subject—which is naturally impossible, while rarefaction as a natural phenomenon must be explained in terms of what is naturally possible. One cannot say that the new one-quarthood that is added exists without inhering in any part of the subject, for the same reason. Nor can one say that the displaced, old one-quarthood is simply corrupted, because then the air would occupy a ten quart volume at the end of the process as well as at the beginning.

Suppose instead that the air is condensed from ten quarts to nine quarts. This cannot simply involve the corruption of the whole form of ten-quarthood and its replacement with a newly produced form of nine-quarthood, for the reasons detailed above in connection with rarefaction. It would seem, then, that the only way to effect the reduction in volume, according to the opponents' theory, is by corrupting one of the one-quarthood parts of quantity, leaving the remaining nine to inhere in the substance. If a one-quarthood part of the quantity is corrupted, however, either the part of the air in which it inhered will remain unquantified, or it will acquire a part of quantity that inhered in one of the other parts of the air. But it is naturally impossible for any corporeal substance such as air to exist unquantified; and since condensation is a natural phenomenon, it must be explained in terms of what is naturally possible. The second alternative cannot be simply that the part of air that has lost its one-quarthood acquires the one-quarthood that used to inhere in another part of the air, for then the latter part would exist unquantified. The proposal must be that all of the parts of quantity "scoot over" so that the nine parts that used to inhere in nine parts of the air, now inhere in the ten parts. But this violates (B).

Given this ingenious argument, Ockham feels entitled to the following conclusion:

> ...Thus, on the basis of all of these things, I maintain that substance is condensed, because—by virtue of an efficient cause and apart from any quantity in between [substance and quality]—its parts are now spatially closer together and less distant from one another now than they were before. And they are that way apart from the loss of any substance or quantity...[31]

Likewise, simple locomotion explains why the parts of a rarified substance or quality are further apart than they were before, without the gain of any new parts of quantity really distinct

31. *Quodl.* IV, q.25, (OTh IX, 420–21); cf. *Treatise on Quantity* II, c.37, (Birch ed. 456–58); *Quaest. Physicorum*, q.99, quoted by Maier, *op. cit.*, 192–93.

from substance and quality.[32]

All Ockham really shows, however, is that his opponents cannot adequately explain the commonly experienced phenomena of condensation and rarefaction without accepting the consequence that infinitely many quantities and qualities are corrupted in the process of condensation and rarefaction. But Ockham cannot plausibly regard the latter as contrary to experience. For since the newly generated qualities would be of exactly the same kind as the ones destroyed, we would not be able to tell just by looking whether the qualities were numerically the same as before or not. Nor would this admission entail a simultaneously existing actual infinity. If there are finitely many qualities in the air to begin with, there will be finitely many qualities of the same kind at each instant in the condensing or rarefying process. And no one had said that an actual infinity of things through time was logically impossible. It remains for Ockham to resort to a slash with his famous razor: if neither reason nor any infallible authority requires us to assume such infinities, and if the experienced phenomena can be explained without them, then such a plurality would be assumed without any necessity.

Ockham's opponents did not see this appeal to Ockham's razor as settling the matter. For John Buridan renewed Middleton's charge that experience shows locomotion to be an inadequate explanation of condensation and rarefaction. And Buridan bolstered this contention with an appeal to experiments. He reports that he was able to rarify and condense air quite a lot if he heated and cooled it, respectively. But if he opened a pair of bellows as wide as they would go and then plugged the opening, he was unable to effect a noticeable decrease in the volume. Again, if he opened the bellows only half way and plugged the opening, he was unable to effect a noticeable increase in the volume. Buridan challenges those who, like Ockham, explain condensation and rarefaction in terms of locomotion, to account for these facts:

32. *Treatise on Quantity* II, c.34, (Birch ed., 414–420).

> ...I can move bodies by pushing or pulling them. What prevents me, then, from being able to compress the parts of air simultaneously, condensing them to obtain a smaller place? Matter is not the obstacle, since more matter could exist in a much smaller place. Nor is the substantial form of air the obstacle, since that whole form is made to exist in a smaller place when the air is condensed by cooling it, as has been said. Nor is heat the obstacle, according to them, for much more heat could exist in at least as small a place, since much more heat exists in a small, red hot piece of iron...[33]

Buridan thinks these experiments force us to conclude that there is something else in the air—really distinct from its matter, its substantial form, or its natural quality of heat—that resists his efforts to move the parts of the air closer together or further apart in these cases. He labels this thing "magnitude." Thus, Buridan meets the appeal to Ockham's razor by insisting that

> ...it is not useless to assume this sort of magnitude, since arguments have been found that force us to assume it. And it is clear from these arguments that this magnitude is just as much or more useful in nature than whiteness or blackness is.[34]

Once again, a really distinct accident of quantity is invoked to explain the impenetrability of a body.

Apparently Ockham's successors were in some degree swayed by Buridan's reasoning.[35] In my view, neither they nor Ockham should have been impressed. Buridan says that since I can move physical objects by pushing or pulling them, then, if condensation and rarefaction were merely the effects of locomotion, I could effect a noticeable condensation or rarefaction in the air. But Buridan has not observed that I can move any and every physical object by pushing it. In his experiments, he finds that he cannot move the parts of air by pushing or pulling them. And it hardly follows from the fact that I can move some physical objects—say chairs and dishes—by pushing them, that

33. *Quaestiones super octo libros Physicorum*, q.8, translated from Maier's quotation, *op. cit.*, 214–15.

34. *Ibid.*, translated from Maier's quotation, *op. cit.*, 217.

35. Cf. Maier, *op. cit.*, 218–222.

since I cannot move a house by pushing it, the house cannot be moved by pushing it but only by the generation or corruption of some form inhering in the house. A sufficiently large bulldozer or truck can move the house by pushing it. Nor does it follow from the fact that it is not impossible for the air to exist in a smaller place, that nothing about the substantial form of the air could account for my inability to move the air particles in such cases. It might be that the air is of such a nature that its particles are apt to be moved further apart only by heating or closer together only by cooling. The latter would explain Buridan's observations without assuming any dimensions or magnitudes really distinct from substance and quality.

In general, the assumption that an appeal to experience could settle this metaphysical dispute seems misguided. Experience confronts us with the phenomena—including condensation and rarefaction—that any adequate theory has to take account of. But what Middleton and Buridan do by adding quantitative forms to the ontology, Ockham manages by appeals to locomotion and the nature of the substantial and accidental forms already admitted. The former have not demonstrated any failure in Ockham's theory to account for condensation and rarefaction. And Ockham has not shown their theory to be in violation of experience of the principle of contradiction here, but only of Ockham's razor.

## 4. THEOLOGICAL ARGUMENTS

Medieval Christians believed that when in the sacrament of the Eucharist or Holy Communion the priest repeats Jesus' words at his last supper with his disciples—"This is my body" and "This is my blood"—the bread and wine actually become the body and blood of Christ. The doctrine of transubstantiation was developed to explain how this happens. And, strange as it may seem to modern secular thinkers, medieval ideas about body were shaped as much by the constraints of this doctrine as by anything that Aristotle ever said. Indeed, philosophers continued to measure the adequacy of a philosophy of body in

terms of its ability to make room for transubstantiation down to the seventeenth century when Descartes' theory is charged with a failure to do so.[36] According to the doctrine of transubstantiation, when the priest says the above mentioned formulae, the substance of the bread and wine are converted into the substance of the body and blood of Christ, respectively. The substances of bread and wine, both their matter and their substantial forms, cease to exist, but their accidents remain. And the body and blood of Christ are said to exist under those respective accidents and so to be present in the Eucharist. Nevertheless, these accidents do not come to inhere in the body and blood of Christ, but exist without being the accidents of any substance.

Prima facie, the doctrine of transubstantiation as summarized so far seems inconsistent with that medieval conception of body according to which it is logically impossible for two bodies to be extended in the same place at once and logically impossible for a single body to be extended in two discontinuous places at once. For if the accidents of bread and wine do not inhere in the body and blood of Christ, respectively, then it seems that two sets of dimensions—those of the accidents and those of the body and blood of Christ—exist together in the same place at once. Further, since it is assumed that the body and blood of Christ remain extended in heaven, and that they may come to exist simulaneously on different altars, it seems that a single body is simultaneously extended in many spatially discontinuous places.

Theologians who thought that extended bodies were necessarily impenetrable and necessarily contained in the place in which they are extended moved to resolve the difficulty by denying that the body and blood of Christ are present in the Eucharist in such a way as to be extended in the same place in which the accidents of the bread and wine are extended, respectively. That way, the body of Christ will be said to be extended in only one place in heaven, and to be simultaneously

36. Arnauld's objections, *The Philosophical Works of Descartes*, ed. and trans. Haldane and Ross, (Cambridge, 1911–1912), vol.II, 95 and 116–122.

present, without being extended, on many spatially discontinuous altars. Aquinas says that by virtue of the conversion, the body of Christ exists in the Eucharist only "in the manner of substance"; that its quantity does not exist there by virtue of the conversion, but only "by natural concomitance"; and that, consequently, the body of Christ is not extended in the Eucharist but is only present to place mediately, by means of the accidents of the bread, which are extended in the place.[37] Scotus, on the other hand, tries to distinguish two senses of position—that which is a differentia of quantity and that which is a separate category. The first has to do with the order of the parts in the whole; the second with the order of the parts in place. Any body will have the former sort of position. But it may have the former without the latter. Given this distinction, Scotus thinks that he can formulate the doctrine of transubstantiation without contradicting the necessary impenetrability and necessary containment of extended bodies.[38]

Ockham's judgment is that both Aquinas's and Scotus's account of how the body of Christ can be present in the Eucharist without being extended in the same place as the accidents are extended, involve insurmountable difficulties.[39] But given the weight of theological opinion against saying that the body and blood of Christ are extended in the Eucharist, Ockham felt obliged to offer an alternative explanation, based on the above mentioned medieval distinction between a thing's being circumscriptively and definitively in place. A thing is circumscriptively in place, if it is whole in the whole place and part in each part of the place. This is the way bodies exist in a place when they are extended in it. By contrast, a thing exists definitively in place, if it is whole in the whole place and whole in each part of the place.[40] This is the way that an angel, which is an indivisible

37. *Summa theologiae* III, q.76, a.1 and ad 3; a.4 and ad 2–3; a.5 and ad 1.

38. See *Rep.* IV, q.6, (OTh VII, 65–66).

39. *Ibid.*, (OTh VII, 63–64, 67–70).

40. *Ibid.*, (OTh VII, 65); *Quodl.* I, q.4, (OTh IX, 25); IV, q.21, (OTh IX, 400–401).

incorporeal substance, exists in place.[41] Ockham says that in fact the body and blood of Christ do not exist circumscriptively in place in the Eucharist, but only definitively. Therefore, it is not the case either that the body and blood of Christ are extended in the same place as the accidents of the bread and wine are, or that the body and blood of Christ are simultaneously extended in discontinuous places.

Ockham considers the objection that angels can exist definitively in place because they are indivisible. But it does not follow that a material substance can exist definitively in place. For the latter is divisible into parts. If it exists definitively in place, that means all of its parts will exist at the same place—which might seem impossible if bodies are necessarily impenetrable. He replies that it is no less possible for a material than for a spiritual substance to exist definitively in place. Nor does he see any impossibility in two parts of a material substance simultaneously occupying the same place. After all, Ockham observes, this happens naturally every time something is condensed; for condensation is simply a process in which parts that earlier existed in different places come to exist in the same place. Further, Ockham contends, the gospels provide us with numerous examples of two whole bodies being simultaneously extended in the same place: e.g., the virgin birth of Christ in which His body is said to have passed through the closed womb of the Virgin, Christ's passing through a closed door after the resurrection, and His ascending through unopened clouds into heaven.[42] If the Bible says so, it must not be logically impossible for two whole bodies to be simultaneously extended in the same place at once; and a fortiori, numerically distinct parts of the same body will be able to do so.

On the other hand, Ockham reasons, there is no more difficulty in numerically the same body existing definitively in the same places at once than there is with the intellectual soul's being whole in the whole body and whole in its many parts, or in

41. *Ibid.* I, q.4, (OTh IX, 26).

42. *Rep.* IV, q.6, (OTh VII, 80, note 1); *Quodl.* IV, q.31, (OTh IX, 453); *Treatise on Quantity* II, c.6, (Birch ed., 192–93).

an angel's existing whole in the whole of a place and whole in its many parts.[43] If it is objected that intellectual souls and angels do not exist simultaneously in discontinuous places definitively, Ockham will reply that this is so in the natural course of things, but they can exist definitively in discontinuous places simultaneously by divine power.[44] In drawing his conclusion, Ockham moves beyond it to another:

> Therefore, I hold that the same body can exist in different places definitively. But the body of Christ coexists principally with the host and with each part of it. Therefore, likewise, how much more can it be present to distinct places in such a way that it is whole in the whole and part in the part—[i.e., how much more can it be circumscriptively in place].[45]

Let $P_1$ and $P_2$ be discontinuous places and $B$ be a body; for the sake of simplicity, let $a$ and $b$ be the parts of $P_1$, $c$ and $d$ the parts of $P_2$, and $e$ and $f$ the parts of $B$ (of course, each of $P_1$, $P_2$, and $B$ and likewise $a$, $b$, $c$, $d$, $e$, and $f$ is infinitely divisible on the Aristotelian assumption of continuity). If both of $e$ and $f$ can exist simultaneously in each of $a$, $b$, $c$, and $d$ and hence if $B$ can exist definitively in $P_1$ and $P_2$ at once, then it would be even easier for $e$ to exist in $a$ and $c$ and $f$ in $b$ and $d$ and hence for $B$ to exist circumscriptively in $P_1$ and $P_2$ at once. To achieve the latter given the former, it is necessary only to take $e$ away from $b$ and $d$ and $f$ away from $a$ and $c$. This being so, Ockham concludes that not only can a corporeal substance "exist in various places at once," "it can exist everywhere by divine power" though "not by any force of its own."[46] And even though the body and blood of Christ do exist in the Eucharist definitively, they could exist there circumscriptively without any logical difficulty.[47]

Even leaving aside disagreements about the impenetrability and containment of extended bodies, however, some thought

43. *Rep.* IV, q.6, (OTh VI, 79); *Quodl.* IV, q.31, (OTh IX, 453).

44. *Ibid.* I, q.4, (OTh IX, 28); q.12, (OTh IX, 70).

45. *Rep.* IV, q.6, (OTh VII, 80, note 1); cf. *Quodl.* IV, q.13, (OTh IX, 360–62).

46. *Rep.* IV, q.6, (OTh VII, 97).

47. *Ibid.*, q.8, (OTh VII, 147).

that the ontological question about quantity could be settled conclusively against Olivi and Ockham from the demands of the doctrine of transubstantiation. (4.1) First of all, they reasoned, if quantity is not a thing distinct from substance and quality, which inheres in the substance directly and is the immediate subject of the qualities, then when the substance of the bread is converted into the substance of the body of Christ, the qualities of the bread would exist without inhering in any subject at all. Aquinas thought this was impossible, in part because qualitites are individuated by their subjects (see section 3 above). If the qualities existed without any and every subject, then they would exist unindividuated—which is impossible.

On the other hand, if they inhere in a really distinct accident of quantity, that will suffice to individuate them, since the parts of dimensive quantity are individuated of themselves.[48]

(4.2) Second, the doctrine of transubstantiation requires them to hold that

(D) The *substance* of the bread and wine is converted into the *substance* of the body and blood of Christ, respectively.

But if quantity is nothing really distinct from the substance and qualities that are extended, it will be necessary to grant that

(E) The *quantity* of the bread and wine are converted into the substance of the body and blood of Christ, respectively,

and

(F) The substance of the bread and wine is converted into the *quantity* of the body and blood of Christ,

neither of which should be allowed.[49]

48. *Summa theologiae* III, q.77, a.2; cf. Part Four, chapter 6 below.

49. *Quodl.* IV, q.26, (OTh IX, 425–26); *Treatise on Quantity* I, q.3, (Birch ed., 118–121); *Treatise on Quantity* II, c.31, (Birch ed., 360–61).

(R4.1) Ockham does not regard the first argument as insurmountable. He merely points out that quantity is also an accident and as such depends on substance more than quality could depend on quantity. Consequently, if God can preserve quantity in existence without the substance in which it inhered, a fortiori He can preserve qualitites in existence apart from any really distinct quantity. And if it is replied that this is not so, since qualities depend on quantity for their individuation, but the parts of dimensive quantity are individuated of themselves, Ockham will reply that nothing is individuated by anything extrinsic to it, but everything is individuated in and of itself. Indeed, Ockham charges, his opponents' view is unphilosophical. For if quantity is the immediate subject of the accidents, then quantity would be subject to contraries; whereas the Philosopher maintains that only substance is subject to contraries.[50] Similarly, this contention seems to be at odds with various authorities in theology.[51]

(R4.2) To the second, Ockham replies that the allegedly objectionable claims in (E) and (F) can both be understood as true, taken literally, although we can conceive of cases in which (D) would be true and (E) and (F) false. For provided that the bread exists extended somewhere,

> ...it should be granted that the quantity that is the substance of the bread is converted into the body of Christ, just as it is granted that the substance of the bread is converted into the body of Christ. Nor does the opposite appear to be found in any authoritative writing. Thus, in all such arguments the definition of quantity should be put in place of the noun to see what follows. For the definition of quantity is 'a thing that has one part situated at a distance from another part'. Therefore, just as 'The thing or substance of the bread that has one part at a distance from another is converted into the body of Christ' should be granted, so 'The quantity of the bread is converted into the body of Christ' should be granted, taken literally.[52]

50. Presented as Aristotle's argument in *Summa logicae* I, c.44, (OPh I, 132), as also found in *Treatise on Quantity* II, c.22, (Birch ed., 280) and *Treatise on Quantity* I, q.3, (Birch ed., 114).

51. *Treatise on Quantity* II, c.21, (Birch ed., 266–279).

52. *Quodl.* IV, q.26, (OTh IX, 427–28); *Treatise on Quantity* I, q.3, (Birch ed., 142–45); *Treatise on Quantity* II, c.31, (Birch ed., 364–371).

Analogously, if the body of Christ exists extended somewhere, then

> literally speaking, the proposition 'Substance is converted into the quantity of the body of Christ' should be granted, just as the proposition 'Bread is converted into the substance of the body of Christ' is. This is clear, putting the definition in place of the noun as before. For the proposition 'The bread is converted into the substance of the body of Christ that has one part at a distance from another—viz., in heaven' is true. Therefore, the other is equivalently true.[53]

On the other hand, if the bread existed only definitively and nowhere circumscriptively in place, (D) could be true when (E) was false; and if the body of Christ existed only definitively and nowhere circumscriptively in place, (D) could be true when (F) was false. For in those cases, the bread and the body of Christ would not have one part at a distance from another and so would not be signified by the term 'quantity'.

If it is objected that (F) entails that the body of Christ comes to exist under the host circumscriptively, Ockham denies it.

> ...For putting the definition of quantity in place of the noun, the proposition 'The quantity of the body of Christ begins to exist under the host or exists under the host' should be granted. ...But the proposition 'The body of Christ exists quantified and circumscriptively in place under the host by virtue of the conversion' is false, just as the proposition 'The body of Christ has one part outside another under the host by virtue of the conversion' is false.[54]

Thus, if one does the simple exercise of substituting his definition of quantity in place of the noun 'quantity', one will see that (E) and (F) are innocuous. In the *Treatise on Quantity* I, q.3, Ockham emphasizes that they are not only harmless, but

> their opposite is not found in the Bible or in the claims of the Saints or in canon law or in any authoritative book, although it is found in the writings of some who are condemned by many Catholics and solemn doctors. I do

53. *Quodl.* IV, q.26, (OTh IX, 429).

54. *Ibid.*, (OTh IX, 429–430); *Treatise on Quantity* I, q.3, (Birch ed., 148–151); *Treatise on Quantity* II, c.31, (Birch ed., 374–79).

> not say that they condemn them as heretics but as holding false opinions. Thus, the Subtle Doctor condemns the Common and the Solemn Doctor and all those in whose writings the opposite is found, so far as many of their opinions are concerned. Likewise, many Catholic doctors condemn the Subtle Doctor in many of his theses. Therefore, although they are found to conclude the opposite of the [above propositions], one should not worry about it very much, since none of them is regarded as authoritative, although they should generally be referred to because when they have said something false, they stimulate our minds and offer us a greater occasion for discovering the truth.[55]

Like Olivi, Ockham thinks his opponents have made a natural mistake of confusing their own philosophical opinion with Catholic dogma.

(4.3) Since Ockham's teaching on quantity was challenged as theologically suspect, he found it prudent to join Olivi in retaliating with a theological defense. In at least five works,[56] Ockham offers the following *reductio ad absurdum* argument to show that his opponent's view of quantity is inconsistent with the doctrine of divine omnipotence.

Suppose 1. Quantity is an accident really distinct from substance, by virtue of which alone the substance in which it inheres is quantified. (Opponent's View)

2. God, as omnipotent, can conserve a substance while destroying all the accidents that are really distinct from it without changing the location or position of the substance.

55. *Treatise on Quantity* I, q.3, (Birch ed., 142–45) and *Treatise on Quantity* II, c.31, (Birch ed., 378–383).

56. Presented by Ockham as valid in *Summa logicae* I, c.44, (OPh I, 137), and as sound in *Rep.* IV, q.6, (OTh VII, 74-75); *Treatise on Quantity* I, q.3, (Birch ed., 96-98); *Treatise on Quantity* II, c.25, (Birch ed., 290); and *Quodl.* IV, q.22, (OTh IX, 404–405). Olivi had advanced a similar argument from theological considerations in his *Quodlibeta*; see David Burr, "Quantity and Eucharistic Presence: The Debate from Olivi through Ockham," *Collectanea Franciscana* XLIV (1974): 5–44; cf. 15.

Suppose 3. God does conserve a substance while destroying all of its accidents that are really distinct from it, without changing the location or position of the substance. (2)

4. Either (a) the substance thus conserved is extended, or (b) the substance thus conserved is not extended.

5. If 4b, then the substance has changed its place —which is contrary to 3.

6. Therefore, 4a: The substance remains extended even after all of the accidents that are really distinct from it have been destroyed. (3, 4, and 5)

7. Therefore, substance is quantified without quantity—which is impossible by 1. (1 and 6)

8. Therefore, not-1. (7)

It is, of course, of premiss 2 that Ockham writes, "I base my proof of this on the article of faith, 'I believe in God the Father Almighty'..."[57] This doctrine was commonly held to entail the following corollaries:

(G) Whatever God can produce by means of secondary causes, He can produce and conserve immediately, by Himself, without any secondary cause acting,

and

(H) God can produce or conserve what is naturally prior without what is naturally posterior.

Arguing in defense of 2 from (G), Ockham observes that there are

57. *Quodl.* IV, q.22, (OTh IX, 404).

cases in which God uses secondary causes to expel all of the absolute accidents from a patient and introduce new ones into it, without that patient's changing place. Suppose, for example, that a composite substance *A* is corrupted into a composite substance *B* of the same size and shape and in the same place. By (C), the accidents of *A* will be numerically distinct from the accidents of *B*. Consequently, the matter that persists through the change will lose all of its absolute accidents without changing place.[58] If God can produce this result by means of secondary causes, then, by (G), He can bring it about without any secondary cause acting. Again, since substance is naturally prior to accidents, it follows from (H) that God can produce or conserve the substance of a log without any of its absolute accidents. In that case, either the log would change places or it would not. Ockham asks, if it did, where would it go? Not up, because the log stripped of its accidents has no more natural propensity to go up than it had before; hence if it were going to go up, it would have gone up before. Not down, for the same reason. Not backwards or forwards, because there is no more reason for it to go one way than the other. Nor will its parts all collapse into a single point, because there is no more reason why they should all locate at one point than at any other. Ockham concludes that the substance of the log would not change place at all, and hence that 2 is true.[59]

Ockham's opponents would hardly be convinced, however. The most that the argument from (G) would show is that God can destroy the quantity of a thing without changing its place, *if* He replaces the destroyed quantity with another just like it. It does not show that God can bring about this result, whether or not He replaces the destroyed quantity. Likewise, Ockham's opponents would grant (H) and the inference that God can produce or conserve a substance without the absolute accident that is its quantity. But when Ockham goes on to add in 2 "without changing the location or position of the substance," he would seem to be begging the very point at issue. Ockham's contemporary and critic

58. For a fuller discussion of Ockham's hylomorphism and account of substantial change, see Part Four, chapter 15 below.

59. *Quodl.* IV, q.22, arg.1 and 2, (OTh IX, 404–405).

Walter Burleigh contends that God can no more "conserve a substance in such a way that it has part outside part when its quantity is destroyed" than He could "make a white thing without whiteness or a man without a soul."[60] For not even God can do what is logically impossible (see Part Five, chapter 27 below). Burleigh thinks that (G) is advanced concerning secondary *efficient* causality, but not of secondary *formal* causality. And if a substance loses its location in place when its quantity is destroyed, it will not thereafter be able to move from one place to another, until its quantity is restored.

Ockham anticipates this objection and attacks it as theologically unacceptable:

> Nor does it hold good to say 'that substance exists in place only through quantity, which is an accident of that substance. Therefore, when the quantity is destroyed, the substance neither exists in place nor undergoes locomotion.' This assertion does not accord with Catholicism. For according to the Saints and authentic Doctors—and it is [clear] enough in the meaning of the canonical Scriptures—an angel exists in place and is transferred from one place to another, no matter how much it is not quantified but is indivisible and lacking in any parts that are apt to exist at a distance from one another. Therefore, how much more can it pertain to a substance that has parts that are apt to exist at a distance from one another to exist in place and change place, even if it lacks the quantity that is an absolute accident really distinct from and inhering in it.[61]

It was held that angels can genuinely have and change spatial location, where for an angel to be located in a place is *not* reducible to an angel's having perceptions of the sort a being literally located in the place would have or to an angel's being able to produce effects on things literally located in that place. Yet, if an angel can literally be located at a place apart from the inherence in it of any really distinct accident of quantity, why cannot a material substance be thus located apart from any really distinct accident of quantity?

It may be objected, however, that this argument from analogy does not force us to conclude that a material substance can be *ex-*

60. Translated from Maier's quotation, *op. cit.*, 190.
61. *Treatise on Quantity* II, c.25, (Birch ed., 296).

*tended* or exist circumscriptively in place, so that it has one part at a distance from another, apart from the inherence of a really distinct accident of quantity. For angels are simple substances and so can exist in place only definitively—i.e., whole in the whole and whole in each part. The analogy with the angels will show only that material substances can exist definitively in place without the inherence of a really distinct accident or quantity.

Of course, it does not follow from the fact that an angel exists definitively in place that an angel is extended. For what is extended has one part at a distance from another; and an angel has no parts. But Ockham thinks he can show by an argument similar to the one discussed at the beginning of this section, that if a material substance "exists in place definitively, it also exists in place circumscriptively" and therefore extended in place. Suppose that prior to the destruction of its accidents, a body *B* exists circumscriptively in place *P*. And suppose for the sake of simplicity, that *P* has parts *a* and *b*, while *B* has parts *c* and *d*; and that *c* exists in *a* and *d* exists in *b*. If after *B*'s absolute accidents are destroyed, *B* exists definitively in *P*, then *B* is whole in the whole of *P* and whole in each part of *P*. This means that both *c* and *d* will exist in *a*, and both *c* and *d* will exist in *b*. But if so, *c* still exists in *a* and *d* still exists in *b*; and these parts are just as much at a distance from one another as they were before the absolute accidents of the substance were destroyed. Consequently, if, after *B*'s absolute accidents are destroyed, *B* exists definitively in *P*, then, after *B*'s absolute accidents are destroyed, *B* will exist circumscriptively in *P* and be extended as well.[62]

Perhaps it will be objected that when *B* exists definitively in *P* its parts will not be at a distance from one another. For *c* to be at a distance from *d*, it is not enough that *c* exist in *a* and *d* in *b*, where *a* and *b* are distinct places. It must be the case that *c* exists at a place at which *d* does not also exist, and vice versa.

Ockham obviously does not use the expression 'at a distance from one another' in this way; but he would not spend much time on a merely verbal dispute. Instead he would argue as above that if God can bring it about that both *c* and *d* exist in *a* and both *c*

62. Ibid., (Birch ed., 296–98); *Quodl.* IV, q.23, (OTh IX, 409).

and *d* exist in *b* apart from any really distinct accident of quantity, it will be even easier for Him to bring it about that *c* but not *d* exists in *a* and *d* but not *c* exists in *b* apart from any really distinct accident of quantity. For to obtain the latter given the former, He has only to take *d* away from *a* and *c* away from *b*. Surely an omnipotent God could do that!

Anyone who grants 2 should also concede Ockham's conclusion in 6: that substance can remain extended even after all of the absolute accidents that are really distinct from it have been destroyed. It does not follow from 6, however, that the quantity by which a substance is extended in three dimensions is *never* really distinct from that substance. One could hold that sometimes substances are extended by the activity of an efficient cause such as God who holds their parts at a distance from one another, but other times by a formal cause, a quantitative accident really distinct from and inhering in them.

Ockham rejects this "hybrid" position first on the ground that it is impossible:

> ...[quantity] is not the formal cause of the distance of parts the way something white is white through whiteness. For then it would be impossible for those that are now spatially distant from one another through quantity to exist in different places without such quantity (whether they are parts of a whole or separate from one another), the way it is impossible for any to be white without whiteness (whether they are separated from one another or parts of a whole)...[63]

But Ockham thinks he has just proved that it is not impossible for a thing to be extended without any such really distinct quantitative accident. Behind this reasoning lies the basic intuition that

> (I) If any instance of an accident of a given kind is a thing really distinct from and inhering in the substance to which it belongs, every instance of that kind is.

Ockham does not see how accidents that are so different that one is really distinct from its substance and the other is not,

63. *Ibid.*, q.24, (OTh IX, 404).

could be accidents of the same kind, but he does nothing in the above passages to show why this intuition should be regarded as compelling. Elsewhere in the same question, Ockham implies that this position would violate Ockham's razor:

> ...When a proposition comes out true for things, if two things are sufficient for its truth, it is superfluous to assume a third. But the propositions 'Material substance is quantified' and 'Material substance is circumscriptively in place and has one part at a distance from another' come out true for things. A substance with its intrinsic parts and place are sufficient for the truth of such propositions, since it is impossible for a material substance to exist in a whole place and parts of the substance in parts of place without its being the case that all of these propositions would be true if they were formed. Therefore, it is superfluous to assume a third thing that is quantity, in order for these propositions to be true...[64]

If the substance with one part at a distance from another is sometimes enough to make the proposition 'Material substance is quantified' true, it is superfluous to suppose that quantitative things really distinct from the substance and its parts ever figure in the truth conditions.

Apparently, Franciscus de Marchia endorsed this hybrid position.[65] In his opinion, the fact that substances can be extended apart from the inherence of any quantitative accidents really distinct from them does not show that such really distinct accidents are either superfluous or impossible. For the inherence of such a quantitative accident has a double effect on its substance: viz., it extends the substance so that the latter has one part at a distance from the other, and it renders the substance impenetrable. Franciscus de Marchia concedes to Ockham that God can reproduce the first of these effects without any such formal cause, but not the second. When God holds the parts of substance at a distance from one another, they do not thereby acquire any tendency to exclude other parts from the place that they occupy. Thus, if such really distinct

64. *Ibid.*, (OTh IX, 413); *Treatise on Quantity* I, q.3, (Birch ed., 116–17).

65. Maier, *op. cit.*, 200–209.

qualities are not necessary for the extension of a substance, Franciscus de Marchia insists that they are required for its impenetrability. Turning to Ockham's argument, he would thus concede 6 but challenge the inference from 6 to 7, on the ground that a thing is positively quantified only if it is impenetrable. And using the term 'quantity' in this way, his point is well taken. For once the logical connection between extension and impenetrability is severed – as it is by Ockham and Franciscus de Marchia alike—Ockham's premisses cannot be seen to entail anything about the conditions under which a thing will be impenetrable.

## 5. POINTS, LINES, AND SURFACES

Many of Ockham's opponents thought that points were things (*res*) really distinct from lines; lines, things really distinct from surfaces; and surfaces, things really distinct from bodies. Further, they thought it possible to establish this conclusion on the basis of throughly uncontroversial principles: the Indiscernibility of Identicals (the principle that for any property *F*, if *a* is identical with *b*, *a* is *F* if and only if *b* is *F*) and some Aristotelian assumptions about the geometry of physical space. Ockham cites the following from their arguments in defense of the first part of their thesis—that points are things really distinct from lines.[66]

(a) A point is the limit of a line.
A line is not the limit of a line.
Therefore, a point is a thing really distinct from a line.

(b) A line is continuous through a point.
The point through which the first half of a given line is continuous with the second half is continuous with the first.
The first half of the line is not the same as the second half

66. *Treatise on Quantity* I, q.1, (Birch ed., 44–48); cf. *Expos. Physicorum* VI, t.3, (OPh V).

of the line; nor is any part of the one the same as any part of the other.
Therefore, the point is a thing really distinct from the line that is continuous through it.

(c) A point is the limit of a line.
The limits of two touching lines are the same.
Neither the lines nor any parts of the lines are the same.
Therefore, a point is a thing really distinct from a line.

(d) Points are indivisible.
Lines are divisible.
Therefore, points are things really distinct from lines.

Obvious parallels are available for the conclusions that lines are things really distinct from surfaces, and surfaces things really distinct from bodies.

Ockham's reaction is that these arguments are not nearly so innocent as they might seem. For their proponents understand the terms 'point', 'line', and 'surface' in them to function as absolute terms the way 'whiteness' does. And if their premisses were true on this interpretation, the arguments would be quite conclusive. Nevertheless, Ockham insists that Aristotle and other authoritative authors of such propositions as 'A point is the limit of a line' or 'Points are indivisible' or 'Lines are divisible' did not understand them that way. Rather they took it that, for example,

> ...the noun 'point' has the same signification as an expression compounded from a noun or a verb or a conjunction or an adverb together with the pronoun 'which', or compounded from a noun in an oblique case and a verb--which compound expression cannot, when taken literally, function as the grammatical subject of a verb. Consequently, no expression in which it occurs is a proper, but rather a figurative locution, and it can be reduced to a figure that grammarians call "hypallage," which they say is the changing of cases or of constructions or sometimes of the whole sentence.[67]

67. *Treatise on Quantity* I, q. 1, (Birch ed., 40).

According to the intention of their authors, 'A point is indivisible' means no more than 'A line is not further extended', and 'A line is divisible' no more than 'Given any part of a line, it is always possible to take another part', etc.[68] But on these construals, the premisses of (d) do not entail its conclusion that points are things really distinct from lines.[69]

Ockham does not let his case against these opponents rest here, however. He offers three types of arguments that their theses—that points are things really distinct from lines; lines from surfaces; and surfaces from bodies—are not only ill-defended, but false: those of the first group try to show that these theses commit them to a simultaneously existing actual infinity of things; the second, that there are no first subjects in which such putative really distinct points, lines, and surfaces could inhere; and third, that such really distinct accidents are theoretically superfluous. I shall examine each in turn.

(5.1) *No Actual Infinity.* Ockham's attempt to show that if points are things really distinct from lines, then there must be an actual infinity of them, rests on the Aristotelian assumption that whatever is extended is continuously extended and infinitely divisible. He argues as follows:

> ...It is impossible that there should be infinitely many actually existing things such that (i) they are wholly distinct from one another, (ii) none is part of another, and (iii) they do not combine to make any one thing. But if points were such indivisible things, there would be infinitely many such things actually existing. For take a piece of wood. It is obvious that, according to them, there are infinitely many lines here, since however many there are, there are more. And each of these lines actually ends in a point, since otherwise no line would actually end in a point. And it is obvious that these points are wholly distinct from one another, since they are indivisible. Nor do they make anything one *per se*, since they are not parts of anything. Therefore, there will be infinitely many of such actually existing things—which is impossible and contrary to all philosophy. It remains, then, that a point is not such an indivisible thing really distinct from every divisible thing...[70]

68. *Ibid.*, (Birch ed., 40–41).
69. Cf. *Expos. Physicorum* VI, t.3, (OPh V).
70. *Treatise on Quantity* I, q.1, (Birch ed., 26–28), and presented as

Ockham's opponents might reasonably respond, however, that he fails to take Aristotle's distinction between actual and potential infinities as seriously as they do. They would, of course, agree that since the piece of wood is actually finite in length, any lines that actually exist on it will actually end at a point—one at each end. Nor could they deny that if there were infinitely many lines actually existing on the piece of wood, there would be infinitely many actually existing points really and wholly distinct from one another—a consequence they would join Ockham in pronouncing unacceptable. Following Aristotle, they could hold that the piece of wood and/or its surface is infinitely divisible. And since a line is the limit of a surface, and a surface is infinitely divisible and thus potentially limited in infintely many ways, there is a potential infinity of lines on the piece of wood. But they could contend that the only actual lines there are, are the ones that represent the actual limits of surfaces. Since the piece of wood is not and cannot be infinitely *divided*, there are not and cannot be infinitely many lines on the log.

The premisses of two other arguments of Ockham's might seem to provide him with the materials of a reply. For he contends that no positive absolute thing (*res*) is either produced or destroyed by the mere division of a continuum into parts or by merely uniting parts that earlier existed separately. For example, he thinks that no new positive absolute things are produced by merely sawing a piece of wood in two. But if we assume that the only actual points, lines, or surfaces there are, are the ones that represent actual divisions of a continuum, we shall have to admit the opposite. Likewise, when two volumes of water are poured into one container, the points, lines, and surfaces that represented their earlier actual limits will be destroyed and new ones will be introduced.[71] This response is only as compelling as the causal principles on which it rests, however. And while

Aristotle's in *Expos. Praedicam.*, c.10, (OPh II, 209–210). A similar argument about lines is offered as valid in *Summa logicae* I, c.44, (OPh I, 135–36), and as sound in *Treatise on Quantity* I, q.2, (Birch ed., 82).

71. *Ibid.*, q.1, (Birch ed., 28) and q.2, (Birch ed., 82).

Ockham's claims seem the more plausible, they are not so overwhelmingly obvious as to change the mind of anyone who thought he had good theoretical reason for believing that points, lines, and surfaces are such really distinct accidents.

(5.2) *No First Subject.* Accidents by nature are apt to inhere in a substance. In the natural course of things, every real accident actually inheres in some substance. And even where, by divine intervention, accidents exist without actually inhering in a substance, it is at least possible that there should be a first subject in which it inheres. Ockham argues that points, lines, and surfaces cannot be really distinct accidents, because no such first subject is even conceivable where they are concerned. Once again his reply rests on the uncontroversial Aristotelian thesis that what is extended is continuously extended and consequently infinitely divisible and not composed of any indivisible parts. He also takes it for granted that there are only three ways in which one thing can exist in another—viz., circumscriptively, definitively, or an indivisible thing in an indivisible subject.

Ockham's argument that a point cannot inhere in a line as in a first subject goes as follows.[72] First, it is clear that a point cannot inhere in a line or any part of a line circumscriptively. For by (C) above, a point could exist in a line circumscriptively, only if there were a proper proportion between the point and the line: in particular, only if there were at least one part of the point for each part of the line. According to the theory under attack, however, a point is an indivisible thing and has no part, whereas a line is an infinitely divisible thing and divisible only into infinitely divisible parts. Consequently, a point cannot exist in a line or in any part of a line circumscriptively, because the requisite proper proportion is lacking.

Ockham argues that a point (call it *b*) cannot exist definitively in a line (call it *a*) either. For if it did, *b* would be whole in the whole of *a* and whole in each part of *a*. Since *a* is extended, it

72. Presented as Aristotle's in *Summa logicae* I, c.44, (OPh I, 133–34) and also in *Expos. Praedicam.*, c.10, (OPh II, 208), and offered in its most elaborate versions in the *Treatise on Quantity* I, q.1, (Birch ed., 8–23).

would follow that one and the same point *b* was located at a distance from itself—which his opponents would not admit. Further, suppose that *c* is one end of *a*. Then both *b* and *c* will be whole in the whole of *a* and whole in each part of *a*, with the result that numerically distinct points have exactly the same location and position—which his opponents would likewise deny. Nor, says Ockham, will it do any good to say that *b* and *c* do not exist definitively in the whole of *a*, but *b* exists definitively in one part of *a* (call it *d*) and *c* in another (call it *e*). For since *d*, like every part of *a*, is extended, it will still follow that *b* exists at a distance from itself. Further, let *f* be one end of *d*. If *f* exists definitively in *d*, then both *b* and *f* will exist in exactly the same place. Ockham's opponents object that in this last move Ockham is once again paying insufficient attention to the Aristotelian distinction between actual and potential infinities. For since *d* is not actually divided from *a*, *d* will not actually have an end and so *f* will not be an actual point. Ockham replies that it is enough if *d* is potentially divisible from *a*. For if that possibility were actualized, then *f* would be an actual point. And if points actually inhered in lines or parts of lines definitively, it would follow that both *f* and *b* would exist in the same place then. Since the impossible does not follow from the possible, and it is possible for *d* to be actually divided from *a*, it must be impossible that a point should inhere in a line definitively. The only way to avoid this conclusion would be to suppose that when *d* is actually divided from *a*, *b* moves and instead of inhering definitively in the whole of *d* comes to inhere only in a part of *d* and thus makes room for *f*. Should his opponents press this line, Ockham would fall back on his other charge—that if a point exists definitively in a line or in any part of a line, it will be at a distance from itself—which they would deny. Analogous arguments would show that a point cannot exist either circumscriptively or definitively in a surface or a body either.

There remains the third alternative, that the indivisible point inheres in something indivisible as a first subject. Ockham asks, what it would be? Either substance or accident. But if we say that it is an accident, then we will face the same problems all

over again in determining what the subject of that indivisible accident is. Either there will be an infinite process, or we will have to say that there is an indivisible substance that is the first subject of the indivisible accident. But Ockham rejects this suggestion as well. According to his opponents, points, lines, and surfaces are only supposed to exist in material substances. But material substances in fact are, as they would agree, continuously extended and therefore divisible only into divisible parts. And their components—matter and form—are likewise continuously extended and infinitely divisible. Ockham does not see how any indivisible substance could combine with such matter and form to make something one *per se*, and so does not see how there could be any such indivisible substance in a material substance to serve as the first subject of the point.

It might be replied that substances are indivisible prior to their extension and that points inhere in them then. Ockham would reply that neither material substances nor their components of matter and form are indivisible prior to their extension. For a substance can be extended only if it has of itself parts that are by nature apt to exist at a distance from one another. A substance that does not have such parts is not apt to be extended. And since material substances have parts that are apt to be continuously extended, they have of themselves parts that are infinitely divisible into other parts, and they have them whether they are actually extended or not.

As we shall see in Part Four, chapter 16 below, Aquinas disagreed with Scotus and Ockham on this point. He believed that matter did not have parts of itself, but was only rendered divisible and divided by the inherence of quantity. Consequently, according to his view, substance is indivisible prior to the inherence of quantity and so could bear the proper proportion to an indivisible point. Could it be said that it is the first subject of points?

Even leaving aside his differences with Aquinas over the nature of matter and three-dimensional extension, Ockham would find this suggestion unpromising. For if points inhered in a substance prior to the inherence of any other accident of quantity, then either accidents of continuous quantity would be

able to inhere in the substance afterwards or not. If they did, then each point would be whole in the whole of that continuous quantity; for there would be no more reason why it should be assigned to one part than to another. Consequently, many points would exist in exactly the same place—which both Ockham and his opponents deem impossible. Hence, if points inhered in the substance prior to the inherence of accidents of continuous quantity, it would be impossible for any accidents of continuous quantity to inhere in it thereafter and so impossible for that substance to be extended—which Ockham's opponents would also reject.

Analogous arguments would show that a point cannot inhere in a quality as in a first subject. But if a point cannot inhere in a line, a surface, a body, a substance, or a quality, then there is nothing in which it can inhere—which is impossible if it is an accident really distinct from lines, surfaces, bodies, substances, and qualities. The conclusion is that points are not such really distinct accidents.

Ockham thinks the same sort of argument will work for lines and surfaces.[73] For while lines are continuously extended in length, they have no width; and surfaces have no thickness.

(5.3) *Theological Arguments.* Ockham thinks that it follows from some further corollaries of the doctrine of divine omnipotence that his opponents' thesis is in violation of Ockham's razor. His strategy is to use the theological premisses to show that God could produce a line without some or any points, and then to argue that the effects that such really distinct points are supposed to produce on lines would remain anyway. The conclusion is that since there is no theoretical work for which they are necessary, it is superfluous to assume that points, lines, and surfaces are really distinct accidents.

The first theological corollary is

(J) God can produce or conserve one thing (*res*) without another really distinct thing (*res*), if neither is the subject

73. *Expos. Praedicam.*, c.10, (OPh II, 209); *Summa logicae* I, c.44, (OPh I, 134); and *Treatise on Quantity* I, q.2, (Birch ed., 82).

or the cause of the other,

which Ockham defends by an appeal to the doctrine of the Eucharist:

> ...if divine power can separate what essentially depends on another either as an effect on a cause or an accident on a subject, from that other, how much more can he make what does not depend on another—whether as a whole or as an accident or as an effect—without that other. But an accident in the sacrament of the altar depends, before its separation, on the substance both as its cause and as its subject. Nevertheless, divine power makes the accident come to exist without the subject...[74]

(OT X: 19)

Given (J), Ockham argues that according to the theory under attack, a point is really and wholly distinct from a line: for a line cannot be part of a point, since a point is indivisible and has no parts; and a point cannot be part of a line, since a line is infinitely divisible and so has no indivisible parts. Further, he has argued that a line cannot be the subject of a point (see section (5.2) above); and no one held that a point was the subject of a line. Nor is either the cause of the other. Consequently, "God can, in His absolute power, produce a line without any points."[75]

The same conclusion can be derived from another theological corollary

(K) When one absolute thing (*res*) can be naturally produced without each of many really distinct things taken one by one, that thing can be produced by divine power without any and all of them—especially where neither is part of the other, or the effect of the other, or an accident of the other,

which parallels claims we have encountered before (see Part One, chapters 2 and 3 above). Ockham says that if points were

(2. 19)

74. *Ibid.*, q. 1, (Birch ed., 32–35).
75. *Ibid.*, (Birch ed., 30–31).

things really distinct from lines, points and lines would be related in the requisite way. For given his opponents' commitment to the distinction between actual and potential infinities, only those points that are the actual limits of some line exist. But since any line is infinitely divisible, it is logically possible that a line be limited in any one of infinitely many ways to the exclusion of the others. Consequently, "the line can naturally exist without this point and without that point and so on for each [possible point]. Therefore, God can produce it without any point" at all.[76]

The first theoretical job of such putative really distinct points Ockham considers is the one mentioned in argument (a) above: viz., that of limiting or ending lines. He reasons that if God made or conserved a line without any points, then

> either the line is finite or infinite. If it is finite without any points, then it is useless to assume points for the purpose of ending lines. But those who assume them do not do so for any other reason. But if the line is not ended or finite, and it really exists according to the case assumed, then it is infinite—which is obviously false. For a line is not larger or longer because the point is separated from it or destroyed. Therefore, it will in no way be infinite, no matter to what extent every point is destroyed.[77]

Ockham's opponents might try to reject the second half of his argument, however, just as they initially denied that God could preserve a substance and destroy all of its absolute accidents without that thing's changing place. By (H) God can conserve a substance without its whiteness, but not without that substance losing its color; for whiteness was the formal cause of the substance's being white. Likewise, by (J) and (K), God can conserve a line while destroying every point, but not without making the line unlimited. For the point is the formal cause of the line's having an end.

Ockham would reject the analogy, however. For he has argued (see section (5.2) above) that a point cannot inhere in the

76. *Ibid.*
77. *Ibid.*

line as in its first subject—indeed that neither the point nor the line can inhere in anything as a first subject. In view of the latter, he doubts whether such really distinct points could fill the above mentioned theoretical role at all. For he really does not see how the line can "be ended by a point in any other way than that in which water is limited by a solid body such as the ground."[78] No doubt Ockham would substitute an analogy of his own: that if God can hold the parts of a substance at a distance from one another while destroying all of its absolute accidents (see section 4 above), then He can hold the parts of the line in the same finite expanse as before while destroying all of the points. The latter seems as plausible as the former.

Second, Ockham focuses on the theoretical role mentioned in argument (b): that of being that through which a line is continuous. Ockham reasons,

> ...if God destroyed every point while conserving a line, I ask whether or not the line is continuous. If it is continuous and not through a point—since according to the assumed case, none exists—then the line is continuous without any point. Consequently, it is useless to assume a point there. If it is not continuous, I ask whether some part of it is continuous, and then I repeat the preceding argument; or no part of it is continuous, from which it follows that some line is not composed of continuous parts—which is impossible.[79]

Here Ockham's opponents cannot seize the second horn of the dilemma without accepting consequences that they find just as impossible as Ockham does. For in opting for it, they affirm that a line is only continuous through points that actually exist. If so, since a line is infinitely divisible, it will only be continuous when infinitely many points actually exist for it to be continuous through. On the other hand, when these points are destroyed, "each part is infinitely divided with respect to all of its parts." Thus, if they hold that a line is continuous only through a point that actually exists, they will be committed to a simultaneously existing actual infinity of things both when the

78. *Ibid.*, (Birch ed., 34–35).
79. *Ibid.*, (Birch ed., 30).

line is continuous and when it is not—which they would have regarded as impossible.

Ockham would offer analogous arguments to show that it is superfluous to assume lines really distinct from surfaces and surfaces really distinct from bodies or substances.[80]

## 6. SUMMARY

The outcome of Ockham's attack on the thesis that quantity is a thing (*res*) really distinct from substance and quality is mixed. He argues persuasively that his opponents cannot consistently account for condensation and rarefaction without assuming that infinitely many quantitative and qualitative things are generated and corrupted in the process, and that since the changes in volume involved in condensation and rarefaction can be explained in terms of locomotion, it is superfluous to assume such infinities of things (in section 3 above). Likewise, he argues ingeniously from the doctrine of divine omnipotence that no such really distinct quantitative accident is needed to explain how bodies are extended in three dimensions. By themselves, these arguments do not show his opponents' position to be in violation of Ockham's razor, however, since they assume such really distinct quantities, not merely to explain how bodies are extended, but also to account for their impenetrability. Unlike some of his opponents, Ockham does not believe that three-dimensional extension is logically sufficient for impenetrability. And he thinks that his opponents even overestimate the natural impenetrability of things (argument (2.3) above). Nevertheless, he does hold that two substances or two qualities of the same kind are naturally impenetrable, and he scarcely addresses the question of what makes them so, beyond saying that experience makes it obvious that they are.

More telling are Ockham's arguments that points, lines, and surfaces are not things really distinct from one another or from substances and qualities. Given the Aristotelian assumptions

80. Cf. *ibid.*, q.2, (Birch ed., 88–90).

that extension is continuous and therefore divisible only into divisible parts—which his opponents would have conceded—Ockham's proofs that there is nothing in a material substance for points, lines, and surfaces to inhere in as a first subject seem cogent. And if so, it follows that points, lines, and surfaces are not the really distinct accidents that his opponents take them to be. On the other hand, if points, lines, and surfaces were things other than accidents, they could not serve their assigned theoretical function of limiting lines, surfaces, or bodies in any way other than the ground serves the function of limiting water; neither could they function as that through which lines, surfaces, and bodies were continuous (see section (5.3) above). Ockham's initial attempt to convict his opponents of a simultaneously existing actual infinity of things (*res*), based on their thesis that points (lines, surfaces) are the limits of lines (surfaces, bodies), seems unsuccessful. For while they would admit the infinite divisiblity of lines, surfaces, and bodies, they would insist that there is only a potential infinity, not an actual infinity, of alternative limits (see section (5.1) above). This escape is available to them, however, only so long as they do not maintain that a line (surface, body) is continuous only through a point (line, surface) that actually exists. For when the latter is combined with the infinite divisibility of lines, surfaces, and bodies, it follows that there are infinitely many actual points, lines, and surfaces through which lines, surfaces, and bodies are actually continuous (see section (5.3) above). Finally, Ockham argues that even if such really distinct points, lines, and surfaces could fill the theoretical role of being that through which lines, surfaces, and bodies are continuous, they are not necessary for this purpose. For if there were such really distinct accidents, it would be logically possible that a line (surface, body) exist without any and every point (line, surface); nevertheless, his opponents cannot deny that the line (surface, body) would be continuous nonetheless, without admitting an actual infinity of simultaneously existing things (see section (5.3) above).

# 7

# Relations

The category of relation is a subject about which Ockham thinks unaided natural reason will direct us to say one thing; the authority of Sacred Scripture and the Church another. For according to the latter, it is necessary to assume that some relations are real things really distinct from absolute things; but the former "will find it easier to deny than to sustain" such a thesis.[1] Some of Ockham's contemporaries and predecessors were of a different opinion, however. They thought it necessary to "suppose that relation is a thing (*res*) other than any absolute thing or things, not only because of authorities but also because of arguments."[2] In Ockham's view, the most distinguished among them was Duns Scotus; and it is his position that Ockham singles out for detailed refutation.[3] Some of these philosophers including Scotus thought not only that there were relative things really distinct from absolute things, but also relative beings of reason distinct from any and every absolute thing, real or unreal. Ockham likewise rejects this contention, denying that there are any relative entities—real or unreal—distinct from absolute entities.

In this chapter, I want to examine this discussion at closer range. I shall devote sections 1–6 below to Scotus's position and Ockham's attacks on it and section 7 to the alternative that Ockham proposes for unaided natural reason. In section 8, I

1. *Ord.* I, d.30, q.1, (OTh IV, 306).
2. *Ibid.*, (OTh IV, 283).
3. Ockham does bring up three other views—including that of Henry of Ghent—in *Reportatio* II, q.2, (OTh V, 28–30, 43–46). But his statement and refutations of the second and third are quite brief. And in dealing with Henry of Ghent, he largely confines himself to explaining how Scotus would have replied to the latter's arguments.

shall deal with Ockham's arguments that there are no relative beings of reason; and in section 9, his estimate of the theological commitment to relations really distinct from absolute things.

Before turning to Scotus's position, however, a few background remarks are in order. (a) The first is that Ockham's predecessors and contemporaries commonly contrasted real relations with relations of reason. We shall return to this distinction in section 8 below. For now it is enough to note that real relations are relations that obtain between things in reality and would obtain between these relata whether or not—*per impossible*—anyone ever thought they did, while relations of reason obtain between their relata only by virtue of some mental activity. It was real relations that philosophers were tempted to regard as real things really or formally distinct from their relata; relations of reason with relative beings of reason.

(b) The appeal of identifying real relations with things really distinct from absolute things might seem obvious. If relations were real things, they could serve as a kind of metaphysical glue, sticking really distinct things together by inhering in both of them at once. While medievals did assign such real relations a unifying function, they would have rejected the latter development of their thesis as impossible. As we have seen in chapter 6, they believed that there had to be a proper proportion between the subject of inherence and that which inheres. When an accident inheres in a substance that has parts, the accident is whole in the substance and part in each part. If so, however, no single simple accident could simultaneously inhere in two, really distinct substances, whose combination could have no more unity than an aggregate has. Rather for two really distinct substances, there must be two really distinct accidents. Accordingly, they held that when an absolute thing *a* is related by such a real relation to an absolute thing *b*, and vice versa, two really distinct relative things are involved: one, *R*-ness, inheres in and has its foundation in *a*; the other, *R'*-ness, inheres in and has its foundation in *b* (where *R*-ness and *R'*-ness are corresponding or co-relations). The inherence of *R'*-ness in *b* makes *b* the term of *a*'s relation of *R*-ness; and the inherence of *R*-ness in *a* makes *a* the term of *b*'s relation of *R'*-ness. (The foundation or

the subject in which the foundation inheres and the term of a relation, or the relata, are often referred to as "the extremes" of the relation.)

(c) Scotus drew a distinction between intrinsic and extrinsic relations, which Ockham explains as follows:

> ...[in intrinsic relations], given the extremes and the foundations of the two relations, the relation at once obtains; and so long as the extremes remain, the same relation will hold. But this is not the way it is with extrinsic relations. For if matter is separated from form and each is conserved in existence, the union does not remain. But given the father and the son, and that the father begat the son, paternity and filiation are always posited. And it is not thus understood that given the extremes, the relation immediately arises. For God can create the man who is begotten by Peter, and yet the man thus created would not be Peter's son because the later never begot him...[4]

Thus, a relation is said to be intrinsic if it is logically impossible for the extremes to exist and the relation and/or its co-relation not to obtain. But a relation is extrinsic if it is logically possible for the extremes to exist and the relation and its co-relation not to obtain.[5]

## 1. SCOTUS'S POSITION

Scotus held that some real relations were things (*res*) really

4. *Ibid.*, (OTh V, 48–49).

5. This way of drawing the distinction admits of a difficulty that neither Scotus nor Ockham noticed. It is true *de dicto* that it is logically impossible for two white things to exist and not be similar, and this fact makes it plausible to identify similarity as an intrinsic relation. But it is not true *de re* that it is logically impossible for two white things to exist and not be similar, since it is logically possible for one of them to be white while the other is black. It is the *de dicto* impossibility that Scotus and Ockham relied on in classifying relations as intrinsic or extrinsic. But this criterion could be trivial unless some restriction is put on the sort of descriptions that occur in the *dictum*, since it is logically impossible *de dicto* for any two things related by *R*-ness not to be related by *R*-ness. On the other hand, it is clearly not the relata in themselves, but the relata considered insofar as they have certain accidental properties that are often related by the allegedly intrinsic relations of equality, similarity, doubleness, halfness, etc.

distinct from their foundations and others were not.[6] He offers a number of arguments in favor of the first half of his thesis in his *Ordinatio* II, d.1, q.4–5. (1.1) Ockham labels the first sort of arguments offered by Scotus "separation" arguments, for reasons obvious from their form:

(i) Nothing is really the same as *a*, if it is not contradictory that *a* should exist without it.

(ii) There are many relations which are such that their foundations can exist without them apart from any contradiction.

(iii) Therefore, there are many relations that are really distinct from their foundations.

(i) is uncontestable, and (ii) is illustrated by many examples. For instance, if this white thing is similar to that white thing, it is still logically possible that this white thing should exist and not be similar to that white thing—say if that white thing did not exist. Or again, a master can exist without being a master, and he can be the master of slaves by acquiring them.[7]

(1.2) A second group of arguments turns on the thesis that

(A) There can be no passage from contradictory to contradictory apart from the generation or corruption of some thing (*res*).

For if there could, then the same things would exist when *p* is

6. Ockham is somewhat misleading on this point in his *Ordinatio* I, d.30 q.1, (OTh IV, 283), when he reports Scotus's view as being that "one should suppose that a relation is a thing (*res*) other than any absolute thing or things, not only because of authorities but also because of arguments." His comment in *Reportatio* II, q.2, (OTh V, 31)—that according to Scotus, "some relations are really distinct [from their foundations] and some are not"—is closer to the mark. His discussion in both questions, however, presupposes a familiarity with Scotus's arguments on both points.

7. Ockham's *Ord.* I, d.30, q.1, (OTh IV, 283–84); Scotus's *Ord.* II, d.1, q.4–5, n.200–205, (Vaticana VII, 101–104).

true as when not-*p* is true. And in that case,

> there would be no more reason why one contradictory should be truer than the other. Thus, either both are simultaneously false or both are simultaneously true.[8]

Applying this to the relation of composition,

> ...if *a* and *b* form the compound *ab*, and the union of these is not anything other than the absolute things *a* and *b* taken separately, then *a* and *b* will remain really united when they are separated...[9]

Again, Scotus invokes a conclusion of Aristotelian physics that

(B) Natural causes can act only within a determinate distance of the things they are acting upon.

If spatial proximity is not a thing really distinct from the proximate objects, then the same things may exist when they are proximate and when they are not. And if spatial proximity does not make any real difference in which things exist, it will not make any real difference to whether or not a cause can produce anything. But by (B), a cause cannot act when it is not spatially proximate. Therefore, it will not be able to act when it is spatially proximate either.[10]

Scotus considers the objection that "no relation is a distinct thing, because it is not a thing (*res*), but exists only in the intellect."[11] In effect, the objection allows that contradictories cannot be true successively without some difference in which entities exist. But it emphasizes that the class of entities is broader than the class of real things (*res*), since beings of reason

8. *Ibid.* I, d.30, q.1–2, n.41, (Vaticana VI, 186–87); cf. Part One, chapter 5 above.

9. Ockham's *Ord.* I, d.30, q.1, (OTh IV, 284); Scotus's *Ord.* II, d.1, q.4–5, n.209, (Vaticana VII, 105).

10. Ockham's *Ord.* I, d.30, q.1, (OTh IV, 284–85); Scotus's *Ord.* II, d.1, q.4–5, n.210, (Vaticana VII, 105–106).

11. Ockham's *Ord.* I, d.30, q.1, (OTh IV, 285–86); Scotus's *Ord.* II, d.1, q.4–5, n.223, (Vaticana VII, 111).

that have a diminished mode of existence as objects of thought are also entities. (See Part One, chapters 2 and 3 above.) To reflect this more generous ontology, (A) should be replaced with

(A″) There can be no passage from contradictory to contradictory apart from the generation or corruption of some entity.

If a statement of the form '*aRb*' is first true and then false, or vice versa, and *a* and *b* exist throughout the process, then we can conclude either that the destroyed or produced relation was some real thing distinct from *a* and *b*, or that it was some being of reason distinct from *a* and *b*. The objector prefers the latter selection to the former.

Scotus would not really object to replacing (A) and (A″), but he thinks that metaphysical disaster will result if relations are invariably identified with beings of reason. Like Ockham, he insists that

> ...nothing real depends on what is only a being of reason (and chiefly a being of reason is caused by an act of our intellect)—at least no real thing that is not a mere artifact does...[12]

But some relations, e.g., the unity of the universe or the parts of a composite, the spatial proximity of a cause to its effect, and the relations of mathematics, must be thought of as real and as obtaining whether or not—*per impossibile*—anyone ever thinks about them. Consequently, they cannot be identified with any mind-dependent entities. Again, "the causation of a real effect does not require a being of reason in its cause." But by (B), natural causes cannot produce anything apart from a relation of spatial proximity; and according to the objector's proposal, spatial proximity is a mere being of reason. It follows that natural causes will not be really able to cause anything.[13]

12. Ockham's *Ord.* I, d.30, q.1, (OTh IV, 286); Scotus's *Ord.* II, d.1, q.4–5, n.225, (Vaticana VII, 112).

13. Ockham's *Ord.* I, d.30, q.1, (OTh IV, 286–87); Scotus's *Ord.* II, d.1, q.4–5, n.223–27, (Vaticana VII, 111–113).

Where the foundation of a relation can exist without the relation, there, Scotus says, the relation must be a thing really distinct from its foundation. But where it is not even logically possible that the foundation exist without the relation, there they are really the same but only formally distinct. This contention rests on the general thesis that

(C) If *b* inheres, properly speaking, in *a*, and *a* cannot exist without *b*, then *b* is really the same as *a*.

Scotus defends (C) by appeal to the Aristotelian notions of natural priority, posteriority, and simultaneity. *a* is naturally prior to *b* and *b* naturally posterior to *a*, if and only if *b* depends on *a* for its existence but *a* does not depend on *b* for its existence. And *a* and *b* are naturally simultaneous, if and only if neither depends on the other for its existence or it is logically impossible for one to exist without the other. Scotus reasons that if *a* cannot exist without *b*, this is either because *b* is naturally prior to *a*, or *b* is really the same as *a*. But what inheres is neither naturally prior to nor naturally simultaneous with that in which it inheres. Therefore, if *b* inheres in *a*, and *a* cannot exist without *b*, then *a* and *b* are really the same.[14] Now real relations inhere in their foundations. Thus, if a foundation cannot exist without a given relation, by (C), that relation will be really the same as its foundation. On the other hand, Scotus thinks, it follows obviously from his understanding of what it is to be formally the same (see Part One, chapter 2 above), that the relation is not formally the same as its foundation: "for the aspect (*ratio*) of a relation does not include—formally and *per se*—the aspect (*ratio*) of anything absolute; and, conversely, the aspect (*ratio*) of an absolute does not include *per se* the formal aspect (*ratio*) of a relation."[15] A paradigm case of this sort of real relation is a creature's relation of depending upon or of being created by God. Thus, Scotus reasons on the basis of (C) that "a relation to God inheres, properly speaking, in the stone and

14. *Ibid.*, n.262, (Vaticana VII, 129).
15. *Ibid.*, n.272, (Vaticana VII, 135).

it is contradictory for the stone to exist without it; therefore that relation is really the same as the stone" but formally distinct from it.[16]

## 2. OCKHAM'S GENERAL ARGUMENTS AGAINST SCOTUS'S POSITION

Ockham wishes to refute Scotus's position by showing that the consequences of (A) are inconsistent with other principles accepted by Scotus himself. To this end, Ockham advances four general arguments, as well as several specific to certain kinds of relations. (2.1) Prominent among the former is Ockham's charge that Scotus's thesis entails the simultaneous existence of infinitely many things—something which both regarded as impossible (see Part One, chapter 5 above). Since Ockham offers rather different arguments on this point for various types of relations, I shall postpone consideration of them to succeeding sections. (2.2) Another of the general arguments rests on two tenets of epistemology: viz., that every thing (*res*) really distinct from and no part of another thing (*res*) can be really thought of when the other is not thought of; and that it is impossible for any thing (*res*) that is a relation to be thought of without another thing being thought of. This argument does have some force *ad hominem*, since Ockham argues plausibly for the first premise and Scotus follows Aristotle in accepting the second. I think that the argument fails because the second premise is false when the intentional contexts in it are construed *de re* as Ockham requires them to be. To see why would take us too far into Ockham's epistemology (see Part Three, chapter 13), however, and so I will pass over it for now.

(2.3) Ockham's third argument is that given (B), the view that real relations are things really distinct from each other and from absolute things, implies exceptions to the commonly accepted thesis that

(D) Co-relations are naturally simultaneous in that it is

16. *Ibid.*, n.261, (Vaticana VII, 129).

> logically impossible for one of them to obtain without the other.

For example, it is logically impossible for Socrates to be similar to Plato without Plato's being similar to Socrates; logically impossible for $x$ to be the double of $y$, unless $y$ is the half of $x$; and logically impossible for Socrates to be the father of Plato unless Plato is the son of Socrates. As Ockham points out elsewhere, however, Aristotle endorses (D) for the above mentioned sorts of relations, but claims that it does not hold in certain cases.[17] Since Scotus follows Aristotle in this restriction, Ockham cannot consistently claim fully general application for his argument.

Ockham reasons as follows:

> ...For every sort of relatives and for every relative category, some extremes must be maximally separated in space. Therefore, some thing (*res*) can be produced in one of the extremes when no thing (*res*) is produced in the other. Therefore, if relations were things (*res*) distinct [from absolute things], then a relation could come to one of the extremes when nothing was produced in the other extreme.[18]

For example, a natural agent in Rome can act to make something in Rome white and therefore similar to something in London. But the natural agent in Rome is too far away to be able to produce anything in the white thing in London. If similarity is a relative thing really distinct from its foundation, then the natural agent in Rome can cause similarity to inhere in the thing in Rome but cannot cause similarity to inhere in the thing in London. And if it does not, neither will any other natural cause. Hence, it seems that the similarity of the white thing in Rome to the white thing in London can exist without the similarity of the white thing in London to the white thing in Rome—which (D) excludes as impossible.[19] This sort of argument can be repeated for other sorts of intrinsic relations. Contrary to Ockham's sug-

17. *Categories*, 7, 7b15ff; cf. Ockham's *Expos. Praedicam.*, c.13, (OPh II, 258–260) and *Ord.* I, d.30, q.2, (OTh IV, 334).

18. *Ibid.*, q.1, (OTh IV, 290–91); cf. *Expos. Praedicam.*, c.12, (OPh II, 241).

19. *Ord.* I, d.30, q.1, (OTh IV, 290–91); *Expos. Praedicam.*, c.12, (OPh II, 241); cf. *Rep.* II, q.2, (OTh V, 32–35).

gestion, it does not seem to work for all relations of power. Fire cannot produce a relation of causality in itself by heating water, unless it is close enough to the water to heat it and hence close enough to produce a relation of being an effect in it.

Ockham considers the objection that (B)

> ...the assumption about action at a certain distance is true where [the production of] absolute things is concerned, but not where relative things are concerned.[20]

That way an agent in Rome would not be able to produce whiteness in a thing in London, but would be able to produce similarity in it when it produces whiteness in the thing in Rome. Ockham responds,

> On the contrary, then it would follow that if God made a thousand worlds and one agent caused whiteness in one, that agent would cause similarity in a thousand worlds. For in every world whatever there can be some individual white thing.[21]

And this is to expand the power of natural agents to act at a distance to absurd limits.

(2.4) Again, Ockham charges that the thesis that relations are things really distinct from each other and from absolute things, is at odds with two other assumptions made by Scotus:

(E) Where relations are really distinct from their foundations, the relata are naturally prior to the relation,

and

(F) God can make the prior without anything naturally posterior to it.

If real relations of, for example, similarity were things really distinct from absolute things, then, by (E) and (F), God could make two white things without the similarity that is naturally

20. *Quodl.* VI, q.8, (OTh IX, 614).
21. *Ibid.*

posterior to them. Nevertheless, it is logically impossible that two white things exist without being similar. Ockham concludes that similarity must not be a thing really distinct from absolute things and naturally posterior to them.[22] The same argument can be repeated for other intrinsic relations, which cannot fail to obtain given the existence of their relata.

Causal relations are not intrinsic relations, however. According to Ockham, causal relations are contingent: even if $x$ is the cause of $y$, it is logically possible that both $x$ and $y$ should have existed and not have been so related. Hence, the existence of $x$ and $y$ is not logically sufficient for the relation to obtain. Nevertheless, Ockham thinks the argument from (E) and (F) can be adapted to show that causal relations are not things really distinct from their relata either. Focussing on the case of paternity and filiation, he reasons that if paternity and filiation were things really distinct from absolute things, then

> ...it would follow that—given that Socrates is first the father of Plato and that Plato is the son of Socrates—God could conserve Socrates and Plato as before, and yet Socrates would not be the father of Plato. In that case, the inference 'Socrates begets Plato, and Socrates exists and Plato exists; therefore Socrates is the father of Plato' would not hold—which nevertheless seems awkward...[23]

On the other hand, if we insist that the latter inference does hold, and that once Socrates has begotten Plato, he remains the father of Plato so long as they both exist, no matter what else is produced or destroyed afterwards, then Ockham will conclude that paternity and filiation must not be relative things really distinct from and inhering in their relata.[24] Similarly for other causal relations.

In fact, such arguments prove only that the relata *can* remain related even after any such relative things inhering in them are destroyed. They do not yield Ockham's further conclusion that

22. *Ord.* I, d.30, q.1, (OTh IV, 291–92); *Rep.* II, q.2, (OTh V, 31–32); *Quodl.* VI, q.8, (OTh IX, 614).

23. *Ord.* I, d.30, q.4, (OTh IV, 368).

24. *Rep.* II, q.2, (OTh V, 48–49).

relations are never things really distinct from and inhering in their relata. Perhaps Socrates and Plato are sometimes similar, and sometimes father and son, by virtue of certain relative things inhering in each of them; and other times they are similar and father and son apart from the inherence of any such relative things.

Ockham rejects this suggestion:

> On the contrary, if similarity were a thing (*res*) distinct [from absolute things], then similarity and a similar thing will be related the way whiteness is related to a white thing. Therefore it will be impossible for anything to be similar without the similarity that is a thing (*res*) distinct [from absolute things], the way it is impossible for anything to be white without the whiteness that is a thing distinct [from its subject].[25]

Behind this reply is Ockham's basic intuition that

(G) If any instance of a given relation is a thing really distinct from and inhering in its relata, then every instance of that relation is.

At the beginning of his next argument, Ockham advances the even more general thesis that

(H) If one relation were a thing (*res*) really distinct from and inhering in its relata, by the same token, every other relation of any kind would be, too.

Thus, if similarity relations were things really distinct from and inhering in their relata, the relations of paternity and filiation would be as well.[26] In the text just quoted, Ockham suggests that it is *impossible* that things should be otherwise than as (G) stipulated, although he does nothing to show us why it would be impossible. In the next paragraph, he supports its application to similarity with an appeal to the famous razor:

25. *Ord.* I, d.30, q.1, (OTh IV, 292).
26. *Ibid.*

> ...it would be useless to suppose that similarity is a thing (*res*) really distinct [from absolute things] if some others could be similar without such a thing, the way it would be useless to suppose that whiteness is a thing distinct from its subject, if the subject could be white without any such thing (*res*).[27]

(G) and (H) are intuitively plausible and would contribute to the aesthetic value of uniformity in a metaphysical theory. Scotus thinks, however, that he has found reason in (A) and (C) to distinguish among real relations of the same and of different kinds those that are really distinct from and inhering in their relata and those that are not. But Ockham will reject both (A) and (C).

Ockham's attacks on (C) come in the context of his arguments that Scotus's theory entails an actual infinity of simultaneously existing things—a charge that I will examine in section 3. Then, in sections 4 and 5, I shall consider Ockham's attempt to establish the same conclusion for relations of power and quantitative relations, respectively. For each of the latter types, I shall discuss one additional argument that such relations cannot be things really distinct from their foundations.

## 3. NON-QUANTITATIVE INTRINSIC RELATIONS

Scotus uses the so-called separation arguments to prove that certain non-quantitative intrinsic relations of similarity, identity, and diversity are really distinct from their foundations. Ockham's principal objection to these conclusions is that it commits one to a simultaneously existing actual infinity of real things. For example, he argues that

> ...if distinction or diversity were a thing (*res*) distinct from absolute things, then the diversity is distinct from the absolute thing (*res*). Therefore, it is so related by another relation. Consequently, the second relation is really diverse from the first. Therefore, it is diverse by another relation. And I repeat the argument for it: it will be diverse by another relation, and there will be an infinite process, so that there will

27. *Ibid.*

> be infinitely many really distinct things (*res*) in each thing—which is absurd.[28]

Again,

> ...if Socrates is similar to Plato, then this similarity is similar to that similarity. By the same token, the second similarity is similar to the other similarity. Thus, there will be an infinite process.[29]

But, as noted above (see Part One, chapter 5), an actual infinity of things (*res*) existing simultaneously was thought to be logically impossible.

Scotus had anticipated this sort of objection, however, and had in effect moved to halt such infinite processes by an appeal to (C)—the principle that if one thing inheres in another, and the latter cannot exist without the former, then they are really the same.[30] Consider first the case of diversity. Suppose that *a* and *b* are absolute things and *c* is *a*'s relation of diversity from *b* and *d* is *c*'s relation of diversity from *a*. Since *a* is the foundation of *c*, *c* cannot exist without *a*. And since it is also impossible that *a* and *c* should exist and not be diverse, it follows that *c* cannot exist without *d* existing. But *d* inheres in *c*, its foundation. Therefore, by (C), since *d* inheres in *c* and *c* cannot exist without *d*, *d* is really the same as *c*, and the infinite process is halted.[31] Likewise, with similarity. Let *k* be Socrates' similarity to Plato and *l* be Plato's similarity to Socrates; let *m* be *k*'s similarity to *l* and *n* be *l*'s similarity to *m*. Scotus will say that *k* is really distinct from Socrates and *l* from Plato, because in each case the latter can exist without the former. But *k* cannot exist without *l*, because they are co-relations and by (D) co-relations are naturally simultaneous in this sense. And it is impossible that both *k* and *l* exist without *m*'s existing, because similarity is an intrinsic relation. Consequently, *k* cannot exist without *m*'s existing. Therefore, since *m* inheres in its foundation *k* and *k*

28. *Ibid.*

29. *Ibid.*, (OTh IV, 293).

30. Cf. Scotus's *Ord.* II, d. 1, q.4–5, n. 198, (Vaticana VII, 100) and n.239, (Vaticana VII, 119).

31. Ockham's *Ord.* I, d.30, q. 1, (OTh IV, 292–93).

cannot exist without *m*, *m* is really the same as *k*, and the infinite process is once again halted.[32]

Ockham's reactions to Scotus's reply are manifold and negative. (3.1) On the one hand, Ockham points out that even if one grants (C), an infinite process in relations of diversity can be generated another way. Suppose that Socrates and Plato both exist and that each is diverse from the other. Let Socrates' diversity from Plato be *a* and Plato's diversity from Socrates be *b*. Since Socrates can exist without Plato, who is the term of *a*, Socrates can exist without *a*. Hence, by Scotus's separation arguments, *a* must be really distinct from Socrates, and Socrates will be related by a relation of diversity—call it *f*—to *a*. Since Socrates can exist without *a*, which is the term of *f*, Socrates can exist without *f*. Consequently, according to Scotus's separation arguments, *f* will be really distinct from Socrates, too, and Socrates will be related by a relation of diversity to *f*... And so on to infinity. Thus, instead of arguing for an infinite process in relations of diversity by maintaining that each relation is related to another by another relation, Ockham argues that Socrates is related to each relation by yet another relation.[33]

It may be objected that this infinite process can be halted by an appeal to (C) as well. For

> ...although *f* is really distinct from Socrates, nevertheless, it is not really distinct from *a*, because *a* cannot exist without *f*. Thus, the process will stop with the second [relation].[34]

This reasoning will not hold good. For (C) allows one to infer that *a* and *f* are really the same, only if *a* cannot exist without *f* and *f* inheres in *a*. But this last condition is not satisfied, since *a*

32. Scotus spells out this reasoning in reply to an objection having to do with relations of identity in *Ordinatio* II, d.1, q.4–5, n.268–69, (Vaticana VII, 133–34), which Ockham quotes as a reply to his own argument about similarity in his *Ordinatio* I, d.30, q.1, (OTh IV, 293–94). I have changed the example to similarity and have used *k*, *l*, *m*, and *n* instead of *a*, *b*, *c*, and *d* to make the discussion less confusing.

33. *Ibid.*, (OTh IV, 295).

34. *Ibid.*

is the term of *f* and not its foundation. As Ockham comments,

> ...even though, according to this opinion, a relation could be the same as its foundation, nevertheless, a real relation cannot be really the same as its term. But the term of *f* is *a*. Therefore, *f* cannot be really the same as *a*.[35]

Thus, whether or not (C) is granted, it seems that Scotus will be forced to assume an actual infinity of simultaneously existing things.

(3.2) Ockham charges further that (C) halts the first two infinite processes only by allowing counter-instances to

(K) There is only one primary term for each primary relation,

a principle that Scotus himself accepts.[36] For in the first argument about diversity, Scotus claims that the relation *c* is related to its foundation through itself, and hence that the single relation *c* not only has *b* as its term insofar as it relates *a* to *b*, but also has *a* as its term insofar as it relates itself to *a*. In the argument about similarity, *k* is said to have Plato as its term insofar as it relates Socrates to Plato, but *k* is said to have *l* as its term insofar as it relates itself to *l*.[37]

Scotus might reply that he is not saying that what is in every way the same relation has distinct primary terms, but only that relations really the same but formally distinct do. Thus, in the first case, *c* has its term in *b* and *d* has its term in *a*, where *c* and *d* are really the same but formally distinct. In the second, *k* has its term in Plato and *m* has its term in *l*, where *k* and *m* are really the same but formally distinct. Hence, (C) does not lead to a violation of (K) properly understood.

The intelligiblity of this answer and of (C) itself turns on the

35. *Ibid.*

36. In fact, he endorses the more general claim that "it cannot be the same relation unless it is between the same extremes" in *Ordinatio* I, d.30, q.1–2, n.12, (Vaticana VI, 126).

37. *Ord.* I, d.30, q.1, (OTh IV, 292–94).

legitimacy of Scotus's formal distinction. For Ockham contends that "nothing can inhere in itself, properly speaking."[38] Scotus will agree that what is in every way the same as a thing cannot inhere in it, but will insist that if *b* is really the same as but formally distinct from *a*, then *b* can, properly speaking, inhere in *a*. Ockham, for his part, rejects any formal distinction in creatures on the ground that it leads to ontological paradox (see Part One, chapter 2 above), and concludes that if one creature inheres in another, it must be really distinct from it. Hence, from Ockham's point of view, Scotus's principle

(C) If *b* inheres in *a* and *a* cannot exist without *b*, then *b* is really the same as *a*

can be at most trivially true by virtue of the falsity of the antecedent; for the consequent cannot be true if the antecedent is.[39]

(3.3) The troublesome clause in (C) is the supposition that *b* inheres in *a*. Deleting it, Ockham acts on Scotus's behalf to replace (C) with

(L) If *a* cannot exist without *b* and vice versa, then *b* is really the same as *a*,

which combines with

(D) Co-relations are naturally simultaneous in that it is logically impossible for one of them to obtain without the other,

to yield the absurd conclusion that relations are neither substances nor accidents. For according to (D), it is impossible for any relation to exist without its co-relation. Thus, for example, it is logically impossible for Socrates' similarity to Plato to exist without Plato's similarity to Socrates, or vice versa. If so, by (L), the former relation of similarity is identical with the

38. *Ibid.*, (OTh IV, 297).
39. *Ibid.*, (OTh IV, 297–98).

latter. But Socrates' similarity to Plato cannot inhere in Plato, because Plato is not its foundation; therefore, by the Indiscernibility of Identicals, Plato's similarity to Socrates cannot inhere in Plato either. By the same token, Plato's similarity to Socrates cannot inhere in Socrates because Socrates is not its foundation. Therefore, neither can Socrates' similarity to Plato. So neither similarity inheres in anything. But neither is a substance, because each is a relative thing, while substances are absolute things. Therefore, some created things are neither substances nor accidents—which is absurd.[40]

Ockham's argument seems valid, but Scotus would deny that it tells against any view endorsed by him. For while he defends (C), he would have denied (L) on the ground that sometimes it may be logically impossible for *a* to exist without *b* and vice versa because *a* and *b* are naturally simultaneous, even though *a* and *b* are really distinct.

(3.4) Further, Ockham thinks that insofar as Scotus endorsed (C) he should have found in it an antidote to (A) and to his own separation arguments. For, Ockham contends, anyone who grants (C) in the singluar, should grant it in the plural. Proffering the analogous principle

(M) If *c* inheres in *a* and *d* inheres in *b* and it is logically impossible for *a* and *b* to exist without *c* and *d*, then *c* and *d* are not really distinct from *a* and *b*,

Ockham argues that no intrinsic relations are really distinct from their relata. Since two white things cannot exist without being similar, even though one white thing can, the similarity of the one to the other and vice versa will not, by (M), be really distinct from the two white things. Likewise, since Socrates and Plato cannot both exist without being diverse from one another, even though each of them can exist without being diverse from the other, the diversity of one from the other and vice versa will not, by (M), be really distinct from Socrates and Plato.

Ingenious as Ockham's argument is, (M) does not seem to be

40. *Ibid.*, (OTh IV, 297); *Quodl.* VI, q.8, arg.4, (OTh IX, 615).

simply "(C) in the plural." Rather

(N) If *c* inheres in *a* and *d* inheres in *b* and it is logically impossible for *a* to exist without *c* and logically impossible for *b* to exist without *d*, then *c* is not really distinct from *a* and *d* is not really distinct from *b*,

is. But the above mentioned two white things or Socrates and Plato do not satisfy the antecedent of (N), since each of them could exist without the other and hence without its similarity to or diversity from the other.[41]

(3.5) Having argued with mixed success that (C) is unacceptable and could not, in any event, have been consistently held by Scotus, Ockham replaces it with

(O) When some things are of the same kind, if one of them is related to another by a really distinct relation, the same thing is related to another of altogether the same kind by a distinct relation,

which can be used to reinforce his own argument for an infinite process in relations of similarity. Scotus had tried to block this regress by maintaining that Socrates' similarity to Plato was not similar to Plato's similarity to Socrates by a third really distinct similarity relation. But given Scotus's separation arguments, he would have to grant that Socrates' similarity to Plato is similar to John's similarity to Paul by a third really distinct similarity relation. For since it is logically possible for Socrates and Plato to exist when John and Paul do not, it is logically possible that Socrates' similarity to Plato exists without being similar to John's similarity to Paul. Therefore, by (O), since the similarity of John to Paul is of the same kind as the similarity of Plato to Socrates, the similarity of Socrates to Plato will be related to the latter by a really distinct relation of similarity as well—contrary to Scotus's conclusion—and the infinite process will be generated after all.

41. *Ord.* I, d.30, q.1, (OTh IV, 299–300).

## 4. RELATIONS OF POWER

Scotus claims that in creatures the relations of cause and effect are real things distinct from absolute things. In addition to his general arguments, Ockham offers three main arguments against this thesis, of which the second is *ad hominem*, the third theological, and the first an attempt to convict the theory of assuming a simultaneously existing, actual infinity of things.

(4.1) Ockham argues as follows that Scotus's thesis commits him to an actual infinity of simultaneously existing things:

> ...if causality were any such little thing, then any created agent would necessarily change with respect to some positive thing whenever it acted. Thus, whenever the sun heated these things here below, it would necessarily receive as many new things as it heated. In that case, if the sun heats a piece of wood, since there are infinitely many heated parts in the piece of wood, infinitely many such things are received in the sun.[42]

Here Ockham appeals to the Aristotelian doctrine, accepted by him and by Scotus, that extended bodies are infinitely divisible and continuous. If the sun is related to each of the infinitely many parts of the continuum by a relation of causing heat, and if such relations are things really distinct from absolute things, then infinitely many such things will come to exist in the sun every time it heats something extended.

It may be objected that Ockham misrepresents Aristotle's doctrine, however. For the Philosopher maintains that extended things are infinitely *divisible*, not that they are infinitely divided. Accordingly, he would assert that a continuous body is actually one thing that has infinitely many parts in potentiality only, but not in actuality. Thus,

> ... just as the piece of wood is one thing and has infinitely many parts of the same proportion only in potentiality, so the relation received in the sun is one thing extended in the sun that has infinitely many parts of

42. *Quodl.* VI, q.12, (OTh IX, 631); cf. *Ord.* I, d.30, q.1, (OTh IV, 301–302).

the same proportion only in potentiality.[43]

Ockham anticipated this objection and counters it with two ingenious arguments that even though such parts are not actually separated from one another still each must be regarded as a subject of inherence or property-bearer in its own right. The first argument runs as follows:

> ...On the contrary, no more actuality is required in something for being a term of different relations than for being the source that brings about some activity. But one part of a continuum, insofar as it is distinct from another and is in the whole, can be the source that brings about some activity. Proof: Take one large fire. One part of it can heat wood that is spatially proximate to it while another distant part does not heat the wood, as we see in the sense experience. Therefore, how much more can each part be the term of a relation...[44]

Again, Ockham observes that "one part of the thing acted upon can have one quality while another part can have the contrary quality."[45] Take any two mutually exclusive parts of a continuum $p_1$ and $p_2$. It is logically possible that $p_1$ be white when $p_2$ is black, and hence logically possible that $p_1$ has whiteness inhering in it and $p_2$ has blackness inhering in it at one and the same time. Again, it is logically possible that the sun should heat $p_1$ while not heating $p_2$, and hence logically possible both that $p_1$ should have heat inhering in it while $p_2$ does not, and logically possible that $p_1$ have the relation of being heated inhering in it while $p_2$ does not. But if the different parts of the continuum can have incompatible forms inhering in them simultaneously, it must be that each part is a property-bearer or subject of inherence in its own right.

It certainly follows from those arguments that if relations of causality and of being-an-effect-of are things really distinct from absolute things, there is an actual infinity of simultaneously existing things whenever a cause acts on a

43. Quodl. VI, q.12, (OTh IX, 631); *Ord.* I, d.30, q.1, (OTh IV, 301–302).

44. *Rep.* II, q.2, (OTh V, 34).

45. *Quodl.* VI, q.12, (OTh IX, 631); *Ord.* I, d.30, q.1, (OTh IV, 302).

continuum. Unfortunately for Ockham, his arguments have a further, more general consequence that he does not draw: viz., that anyone who allows that forms of any sort inhere in extended things is committed to an actual infinity of simultaneously existing things. If each part of the continuum is a property-bearer or subject of inherence in its own right and therefore must have its own relation of being-acted-upon even when the whole log is being acted upon, so also each part of the continuum must have its own form of whiteness even if the whole log is white. Since (as we shall see in chapter 8) Ockham himself believes that qualities such as whiteness are things really distinct from substance, and that an actual infinity of simultaneously existing things is impossible, he will have as much reason as Scotus to find a way around this argument.

It might be replied that Ockham's arguments still fail to take the idea of a potential infinity seriously. Of course, for any two parts of the continuum, it is logically possible that they be divided in actuality; for any two parts, it is logically possible that one act to produce an effect while the other does not; and for any two parts, it is logically possible that a form inhering in one is incompatible with a form inhering in the other. But so long as they are not actually divided, they are actually one thing and parts only in potentiality; so long as the whole causes, they are actually one cause and distinct causes only in potentiality; and so long as they do not actually have distinct, incompatible forms inhering in them, they are actually one but potentialy distinct property-bearers.

It is not clear that Scotus is in a position to rest his case with this reply, however. As we shall see in section 5, he admitted quantitative relations to be things really distinct from the absolute things in which they inhere. But even when the parts of a continuum are not actually divided, one part is the double or a fourth or a third of another, etc. Each part bears a different proportion of relation to the whole. Hence, if these relations of doubleness, halfness, fourthness, etc. are things really distinct from absolute things, then the parts of a continuum will always have incompatible forms inhering in them, and hence—even by the latter argument—be actually distinct property-bearers or

subjects of inherence.

(4.2) To understand Ockham's second argument, we must briefly examine Scotus's doctrine of instants of nature, which is based on the Aristotelian notions of natural priority, natural posterity, and natural simultaneity explained above. Scotus suggests that just as there is—independently of anyone's thinking about it—a temporal order among things according to which some are before, others after, and still others simultaneous with a given thing; so there is—independently of anyone's thinking about it—a natural order among things according to which some are prior, others posterior, and still others simultaneous. Further, just as temporal relations can be specified by referring to instants of time, so natural relations could be marked by referring to earlier and later instants of nature. Thus, what is naturally prior to something else could be said to exist at an earlier instant of nature than it does; naturally simultaneous, the same instant of nature; and naturally posterior, a later instant of nature. And just as a thing may have different properties at different times, so also, Scotus contends, at earlier and later instances of nature. Consequently, Scotus concludes, it is just as appropriate to relativize predications to instants of nature as to instants of time; and he finds this device particularly fruitful in analyzing divine thought and volition. Although Ockham rejects Scotus's doctrine of instants of nature just as vehemently as his formal distinction (for reasons to be examined in Part Five, chapter 24 below), Ockham thinks it can be combined with Scotus's assertion that

(E) Where relations are really distinct from their foundations, the relata are naturally prior to the relation,

to show that being-the-cause-of and being-the-effect-of are not real things really distinct from absolute things. Ockham's two versions of this reasoning may be set out as follows:

(i) If causality or production were a thing (*res*) distinct from absolute things, then either it would be (a) naturally prior, or (b) naturally simultaneous with, or (c) naturally posterior to the produced effect.

(ii) A relation is essentially dependent on both its foundation and its term. (Scotus's equivalent to (E))

(iii) Therefore, a relation is not naturally prior to either its foundation or to its term. (ii)

(iv) The effect produced is the term of the relation of causality or production.

(v) Therefore, not–(ia). (i, iii, and iv)

(vi) Not-(ib). (ii)

(vii) If (ic), then the effect would exist at an instant of nature prior to its production—which is absurd.

(viii) Therefore, not-(ic). (vii)

(ix) Therefore, causality or production is not a thing (*res*) distinct from absolute things. (i, v, vi, and viii)[46]

Everyone would agree that it is impossible that $a$ and $b$ both exist at $t_1$ and that $t_2$ is the first instant of $b$'s existence (where $t_2$ is a later instant of time than $t_1$). Likewise, on Scotus's doctrine of instants of nature, it is contradictory to assert that $a$ and $b$ both exist at $n_1$ and $n_2$ is the first instant at which $b$ exists (where $n_2$ is a later instant of nature than $n_1$). But $b$ is produced in existence at the first instant (if any) at which $b$ exists. Therefore, if a thing were produced in existence only by virtue of a really distinct relation of production inhering in its cause and a really distinct relation of being-an-effect existing in it, nothing could ever be produced in existence. For, by (E), the first instant of inherence will be later than the first instant of $b$'s existence.

These arguments seem effective *ad hominem* against anyone who grants (E) and the Scotistic doctrine of instants of nature.

46. *Ibid.*, (OTh IV, 300–301); cf. *Quodl.* VI, q.12, (OTh IX, 629–631).

Should anyone think to preserve the thesis that the relations of causality and of being-an-effect-of are things really distinct from absolute things by dropping the latter while retaining the former, Ockham will confront him with the argument in (2.4) above.

(4.3) The third argument is based on the doctrine of divine omnipotence, according to which God has the power to bring about anything logically possible and producible (with some exceptions not relevant here; see Part Five, chapter 28) and has the power to bring it about directly, without the assistance of any secondary causes.

(i) Every thing (*res*) that God can make by means of a secondary cause that is efficient *per se*, He can make without any secondary efficient cause. (Doctrine of omnipotence)

(ii) If relations of efficient causality are things really distinct from absolute things, and if God acts together with a given efficient cause to produce a relation of efficient causality in that cause, then God can produce that relation of efficient causality without a secondary cause. (instance of (i))

(iii) Suppose God does produce that relation without a secondary cause.

(iv) Anything can be denominated from any form existing in it.

(v) Therefore, the thing in which that relation is produced is an efficient cause. (iii and iv)

(vi) It effects only the relation.

(vii) Therefore, God does not act alone to produce that relation. (v and vi)

(viii) (vii) and (iii) are contradictory.

(ix) Therefore, the relation of efficient causality is not a thing to be caused. (viii and ii)[47]

Premise (i) is ambiguous between

(i′) Everything (*res*) that God can make by means of a secondary cause that is efficient *per se*, He can make without any secondary efficient cause acting to produce that thing.

and

(i″) Everything (*res*) that God can make by means of a secondary cause that is efficient *per se*, He can make without any secondary efficient cause acting to produce anything whatever.

If relations are things really distinct from absolute things, it seems obvious that (i″) is not true. For given (iv), God cannot produce a relation of efficient causality in anything $x$ without $x$'s being an efficient cause. And since given (E), no relation can exist without a term, it follows that God cannot produce such a relation in anything $x$ without some secondary efficient cause (namely, $x$) acting to produce something or other.

All that is required by the doctrine of divine omnipotence, however, is (i′). The above argument derives a violation of (i′) from a violation of (i″) by means of premise (vi). But (vi) does not follow from (ii) and (iii) as they stand. Ockham probably intended some such assumption as

(iii′) Only God and a creature $x$ exist, and God produces a relation of efficient causality in $x$ without any secondary cause acting to produce that relation and God produces nothing else with or without the aid of any secondary cause.

47. *Ibid.*, (OTh IX, 632); cf. *Summa logicae* I, c.57, (OPh I, 185) and *Quodl.* VII, q.3, (OTh IX, 710).

Since neither God nor $x$ can be the term of $x$'s relation of efficient causality, it follows that the relation of efficient causality itself must be.

Scotus might well question whether (iii') is a logically possible state of affairs, however. For it would seem to follow from (E) that a relation cannot be its own term, since a relation is naturally posterior to its term and is not naturally posterior to itself. Indeed, Ockham himself uses this claim against Scotus in *Ordinatio* I, d.30, q.1, when he is criticizing the latter's use of (C) to halt infinite processes in relations of diversity and similarity.[48] But if (iii') is contradictory, that will be enough to explain why we get a contradiction in step (viii) and we will not be able to draw any further conclusions about the ontological status of relations of efficient causality.

## 5. INTRINSIC RELATIONS OF QUANTITY

Ockham gives two principal reasons for denying that intrinsic relations of quantity such as doubleness, halfness, equality, etc. are things really distinct from absolute things. There is the now familiar contention that such an assumption leads to an actual infinity of simultaneously existing things; and the further charge that such relations cannot be things because there could be no proper proportion between them and any subject of inherence. Since the first is easier to understand after the second, I shall reverse the order in discussing them here.

(5.1) Focussing on the relations of doubleness and halfness, Ockham argues as follows:[49]

(i) Suppose doubleness (halfness) is some thing (*res*) really distinct from absolute things.

(ii) Therefore, doubleness (halfness) is either (a) divisible or (b) indivisible. (i)

48. (OTh IV, 295).

49. *Ibid.*, (OTh IV, 303–304); *Quodl.* VI, q.9–10, (OTh IX, 620–22); cf. *Expos. Praedicam.*, c.12, (OPh II, 241–42) and *Summa logicae* I, c.50, (OPh I, 160–61).

(iii) If (iib), the doubleness (halfness) would be whole in the whole subject and whole in each part.

(iv) Anything can be denominated from any form existing in it.

(v) Therefore, if (iib), then the same subject will be simultaneously double and half with respect to the same—which is absurd. (iii and iv)

(vi) Therefore, not-(iib). (v)

(vii) If (iia), then doubleness (halfness) would be divisible either (a) into parts of the same kind or (b) into parts of different kinds.

(viii) If (viia), the part will still be double (half) the way the whole is and the same subject will be simultaneously both double and half—which is absurd.

(ix) Therefore, not-(viia). (viii)

(x) Not-(viib).

(xi) Therefore, not-(iia). (vii, ix, and x)

(xii) Therefore, not-(ii). (vi and xi)

(xiii) Therefore, not-(i). (xii)

The disjunction in (ii) is logically exhaustive, and (iv) is a generally accepted thesis of hylomorphism. (iii) merely instantiates a general claim about the way indivisible accidents inhere in their subjects. And when an objector later suggests that an indivisible accident of doubleness might be whole in the whole subject but not exist in the parts at all, Ockham pours scorn on the idea:

> On the contrary, it is not imaginable that any accident should inform

a subject and nevertheless that neither the whole accident nor any of its parts is in any part of the subject.[50]

From an atomist's point of view, (x) might seem false, since for him a white thing is ultimately divisible into atoms none of which is white; a sweet thing into the atoms none of which is sweet; etc. But from an Aristotelian point of view, according to which a white thing is a composite of matter and substantial and accidental forms, (x) seems initially plausible where qualities are concerned: the form of whiteness seems divisible only into partial whitenesses; the form of sweetness, into partial sweetnesses; etc. On the other hand, it is far from obvious that doubleness (halfness) must be divisible into parts each of which is a doubleness (halfness). Ockham defends (x) by means of the following argument:

(a) Whenever parts are of a different kind, they form something that is one *per se* and they are related the way matter is related to substantial form and they are not distinct in place or subject.

(b) Therefore, if the parts of doubleness (halfness) were of different kinds from doubleness (halfness), they would not differ in place or subject.

(c) Therefore, if (viib), all of the parts of doubleness (halfness) would be in each part and so doubleness (halfness) would be in each part of the subject. (b)

(d) Therefore, if (viib), each part of the subject will be double and half with respect to the same—which is absurd. (c and iv)

(e) Therefore, not-(viib). (d)

This ingenious argument depends heavily on (a). Where matter and substantial form combine to make something *per se*, the

50. *Quodl.* VI, q.10, (OTh IX, 623); cf. *Ord.* I, d.30, q.1, (OTh IV, 305).

matter and the substantial form inhering in it occupy exactly the same place and constitute exactly the same subject in existence. (a) says that if parts of kinds other than doubleness (halfness) are essentially united to make doubleness (halfness), then all of those parts will be located in exactly the same subject.

An objector observes that (a) may admit of counterexamples: for "it is clear in anatomy that not every part of a human being is a human being, even where both matter and form go together."[51] This remark admits of a double interpretation. The objector may be alluding to the fact that the parts of a human being include hands, feet, arms, and legs, none of which is itself a human being. Yet, the accidents of the hands are in a different part of the matter from the accidents of the feet; and the matter in the hands is in a different place from the matter in the feet. Alternatively, the objector may refer to Ockham's own view (see Part Four, chapter 15 below) that a human being is a composite of matter, the form of corporeity, the form of sensory soul, and the form of intellectual soul; yet there is a sense in which these parts are distinct in place and subject. For while the forms of corporeity and sensory soul are extended in the matter, in such a way that the whole is in the whole and a part in each part, the form of intellectual soul is not extended and so is whole in the whole and whole in each part.

Ockham replies that

> ...this is inadequate, because whatever pertains to those that have different substantial forms, nevertheless, where there is only one substantial form and one matter, and where accidents are similar in all of the parts, there some parts and the whole must be of the same kind.[52]

He seems to be saying that he intended to restrict (a) to cases "where there is only one substantial form and one matter, and where accidents are similar in all of the parts," whereas a human being has a plurality of substantial forms and the hands and feet of the human body have different accidents. If so, the objector might still claim that (a) does not apply in the case at

51. *Ibid.*, (OTh IV, 304).
52. *Ibid.*

hand. For not only does he want to claim that the parts of doubleness are different in kind from doubleness, but also that they are different in kind from each other. Ockham acknowledges this suggestion:

> Suppose some heckler says that something quantified is the double of something else, and that this doubleness exists only in the whole, because it includes the halfness that exists in some part of it. For its fourth part is half of a part of which the whole is the double, and an intermediate part is equal to it, etc. For each part has some relation to that of which the whole is the double. But one has the relation of equality, the other, the relation of halfness, etc.[53]

Ockham replies that "it follows from this that there will be infinitely many things (*res*) of a different kind in this double."[54] For an extended body is infinitely divisible, and each of the infinitely many parts of the continuum will be related to the whole and to that of which the whole is the double, etc. Thus, doubleness will be composed of infinitely many such things, and there will be an actual infinity of simultaneously existing things—which was thought impossible.

A second objection rejects the inference of (v) from (iii) and (iv):

> Again, suppose a heckler says that doubleness exists in the whole and in each part. For no part of the double can be found, which is not double with respect to any part of the half. Thus, the whole doubleness is doubleness, certainly not with respect to the double, but with respect to a part of the double. For example, half of the double is double with respect to half of the first half. The same will hold true for equality and the like.[55]

Suppose the parts of doubleness (halfness) are doubleness (halfness), so that both doubleness and halfness exist in each part of the object. It does not follow that each part is double and half *with respect to the same part*. Rather each part is the double

53. *Ibid.*, (OTh IV, 304–305).
54. *Ibid.*
55. *Ibid.*, (OTh IV, 305).

of some smaller fraction of that of which the whole is the double; and each part other than the half is half of some smaller fraction than the half of the whole is. But the parts will be half with respect to one fraction and double with respect to a smaller fraction, etc.

Ockham charges that this is inadequate, because

> ...they assume that doubleness and halfness in numbers are like doubleness and halfness in a continuum. But where numbers are concerned, it is possible to take some double number, no part of which is the double of any part in the half—or at least not every part is. For four is the double of two, but three is the double of no part of two.[56]

This reply does not so much defend the inference of (v) from (iii) and (iv), as it challenges the adequacy of the objector's account of how doubleness is divided into parts. What the objector says may be plausible where the doubleness in a continuum is concerned, and it is on continua that discussion has focussed so far. But relations of doubleness and halfness are also to be found in numbers of discrete things. For example, suppose there is a group of four human beings. The whole group is the double of its half. But the subgroup of three men is not the double of any part of the whole. Hence, it seems that not all of the parts of doubleness can be doubleness after all.

Here the objector might respond that one should not give a uniform account of how doubleness is divided into parts. Rather one should say that where doubleness in a continuous body is concerned, the parts of doubleness are doubleness; but where doubleness in numbers of discrete entities is concerned, the parts of doubleness are of kinds other than doubleness. In Ockham's example, the doubleness in the group of four human beings is composed of fourthnesses, halfnesses, three-fourthnesses, etc.

No doubt Ockham would find himself unable to see how a thing that was divisible only into parts of the same kind and a thing that was divisible only into parts of different kinds, could be things of the very same kind. And plausibility would be on

56. *Ibid.*

Ockham's side here.

(5.2) Even if the inherence of doubleness, halfness, etc. could be explained, Scotus's view—that they are things really distinct from absolute things—would have to be rejected, according to Ockham. For it commits one to a simultaneously existing actual infinity of things. Thus, Ockham argues,

> ...If doubleness were some thing [distinct] from absolute things, then it follows that in [every] double there would be an infinity of small things, each of which differed in species from the others. For if one body (*a*) is the double with respect to another (*b*) separate from it, then the whole doubleness will be in the whole double. Therefore, just as the whole (of *a*) is double with respect to that body (*b*), so its (*a*'s) half is equal to it (*b*); and the fourth part (of *a*) is half with respect to that body (*b*) of which its whole is the double. And so each part of the same proportion of the double body has some relation to that body of which its whole is the double: one has the relation of equality, another of halfness, etc. And no part (of *a*) has the same proportion to that body (*b*) as another has. Rather they are of different species. Consequently, there will be infinitely many relations of different species in this double, just as parts of the same proportion are infinitely many.[57]

So long as such quantitative relations are supposed to be things really distinct from absolute things, this conclusion seems inescapable.

## 6. SUMMARY OF OCKHAM'S ATTACK ON SCOTUS'S THEORY OF REAL RELATIONS

Although Ockham's critique of Scotus's theory of real relations is not entirely successful, it nevertheless inflicts considerable damage on the latter's position. Using the separation arguments and

(A) There can be no passage from contradictory to contradictory apart from the generation or corruption of some thing (*res*),

57. *Quodl.* VI, q.10, (OTh IX, 622–23).

Scotus infers that many intrinsic relations and relations of power are things really distinct from and inhering in absolute things. Ockham tries to show that these principles commit Scotus to simultaneously existing actual infinities of such relations, which both regard as logically impossible. Scotus seeks to fight off these consequences with

(C) If *b* inheres, properly speaking, in *a*, and *a* cannot exist without *b*, then *b* is really the same as *a*.

Some of Ockham's proofs of actual infinities are unaffected by (C), however: viz., one argument for an infinite process in relations of diversity, and the arguments concerning intrinsic relations of quantity, such as doubleness, halfness, etc. Further, (C) is only as intelligible as Scotus's formal distinction, which Ockham has argued is a bogus notion (see Part One, chapter 2 above).

Ockham also tries to detail other ways in which Scotus's position can be reduced to contradiction. In (2.4), Ockham argues that Scotus's theory also combines with

(E) Where relations are really distinct from their foundations, the relata are naturally prior to the relation,

and

(F) God can make the prior without anything naturally posterior to it,

to yield a contradiction. For if similarity were a thing really distinct from its foundation, God could, by (E) and (F), make two white things apart from any such real relations of similarity; yet they would still be similar. And if paternity and filiation were things really distinct from their foundations, God could preserve Socrates and Plato in existence after Socrates begot Plato without the things that are their paternity and filiation; yet Socrates would still be the father of Plato and Plato the son of Socrates. This reasoning would be telling against Scotus if he had claimed that all such intrinsic and causal relations are things

really distinct from their relata. But Scotus has made a point of distinguishing cases in which they are from those in which they are not by means of (C). Having shown that (C) is unacceptable, Ockham replaces it with

(G) If any instance of a given relation is a thing really distinct from and inhering in its relata, then every instance of that relation is,

and

(H) If one relation were a thing (*res*) really distinct from and inhering in its relata, by the same token, every other relation of any kind would be, too,

and

(O) When some things are of the same kind, if one of them is related to another by a really distinct relation, the same thing is related to another of altogether the same kind of a distinct relation,

to show that the consequences of (A) and the separation arguments are inconsistent with (E) and (F).

In (2.3) Ockham successfully shows Scotus's assumption that some intrinsic relations are things really distinct from their relata to be incompatible with

(B) Natural causes can act only within a determinate distance of the things they are acting upon,

and

(D) Co-relations are naturally simultaneous in that it is logically impossible for one of them to obtain without the other.

both of which are endorsed by Scotus for relevant instances. Again, in (4.2), Ockham successfully combines Scotus's doctrine of instants of nature with (E) to infer that created relations of

causality and of being-an-effect-of cannot be things really distinct from absolute things, contrary to Scotus's contention. And in (5.1) he urges with some plausibility that if quantitative relations such as doubleness, halfness, etc. were things really distinct from absolute things, some uniform account would have to be given of how those accidents can be divided into parts, whereas no such account can be found.

## 7. THE POSITION OF UNAIDED NATURAL REASON REGARDING REAL RELATIONS

Ockham thinks that his arguments against Scotus's theory provide substantial grounds for denying that any real relations are things really distinct from their relata.[58] The question remains whether Scotus's arguments in favor of this thesis are even weightier. For example, if unaided natural reason denies that any real relations are things really distinct from their relata, will it not be forced to identify them with beings of reason and hence face the seemingly insurmountable difficulties raised by Scotus against such an alternative? Ockham is convinced that it will not. Accepting (A) or (A″), Scotus and his opponent agree that statements of the form '*aRb*' entail statements of the form '*R*-ness exists', where substitutions for '*R*-ness' function as merely absolute terms to name some entity. Their ontology offers them two alternatives: either substitutions for '*R*-ness' name a real being or they name a being of reason. Ockham concedes that Scotus has reduced the second alternative to an absurdity.[59] But he thinks that the latter arguments combine

58. *Ord.* I, d.30, q.1, (OTh IV, 306).

59. A concession not made by Ockham's older contemporary Peter Aureol, who tries to defend such a view in his commentary on the *Sentences* I, d.30, p.2, a.1, (Rome, 1596, vol.I, 698–700). There is also one passage in which Ockham takes a more tolerant attitude towards such a viewpoint. While considering what sort of relation God's eternal thought of creatures is, Ockham spells out answers given both (i) by those who hold that *a* and *b* are related only if *a* and *b* are actually denoted by a conventional or natural relative sign; and (ii) by those who maintain that *a* and *b* are related if they are of the sort that a conventional or natural relative sign would signify, if

with his own against Scotus's theory, to show that statements of the form '*aRb*' do not entail statements of the form '*R*-ness exists' (where substitutions for '*R*-ness' function as merely absolute terms) and hence that (A) and (A″) are false. According to Ockham, those who are guided by unaided natural reason would replace (A) and (A″) with

(A′) Necessarily, if first *p* is true and then not-*p* is true, then either something has been produced in existence for the first time, or something that did exist has ceased to exist, or some locomotion has occurred,

which will not sustain the arguments of Scotus and his opponents.

According to Ockham, unaided natural reason would hold that relation terms are connotative terms that signify both relata, or signify one primarily and connote the other, and connote that the relata exist in a certain way. Considering some of Scotus's examples, adherents of unaided natural reason would say that

> ...'composition' does not signify precisely two absolute things—say matter and form—but signifies them together with the fact that nothing corporeal comes between them...[60]

Similarly,

> They would reply...that 'spatial proximity' signifies not only those two absolute things but also signifies that no impediment lies in between them...[61]

As for 'similarity', they would say that it "signifies two white things immediately, apart from any intermediate relation, or it

such a sign existed. And he refers to the difference between their answers as posing "more of a verbal than a logical or real difficulty" (*Ord.* I, d.35, q.4, (OTh IV, 474)).

60. *Ibid.*, d.30, q.1, (OTh IV, 312).

61. *Ibid.*

signifies one principally and the other connotatively."[62] Turning to causal relations, they would say that

> a cause and its effect, a producer and its product can really exist apart from any relation of reason, since 'cause' and 'active production' signify the absolute nature of the cause and connote the effect; the other way around for 'effect' and 'passive production', since they signify the effect principally and connote the cause apart from any relation of reason.[63]

Or again, "...'Socrates is the father of Plato' signifies only that Socrates has begotten Plato and both actually exist...."[64] And in general, they would say that statements of the form '*aRb*' assert no more than that *a* and *b* exist in a certain way, without implying the existence of a relation in any way distinct from the relata.

Ockham thinks that this treatment of relation terms as connotative terms provides the followers of unaided natural reason with a reply to Scotus's arguments based on (A) and to the "separation" arguments. They would distinguish two sorts of cases in which a foundation can, or first does and then does not, exist without being related in a given way. Sometimes the latter fact is to be explained by the fact that the other relatum can, or first does and then does not, fail to exist.

> ...the argument from separation does not hold good. For when a name signifies one thing principally and another connotatively, then when only the thing connoted and nothing real in the principal significatum is destroyed, that name will not denominate its principal significatum. For it does not signify the principal significatum unless the thing connoted exists together with it. Therefore, when the connoted object is destroyed, the denomination does not pertain to it. And given that the connoted object exists together with the principal significatum of that name or concept, immediately, without anything real being acquired by the principal significatum, that name or concept denominates both, in such a way that there has been a passage from one contradictory to another because of a mere change in the connoted object. The same

62. *Rep.* II, q.1, (OTh V, 16); cf. (OTh V, 9).
63. *Ibid.*, (OTh V, 26).
64. *Ord.* I, d.30, q.4, (OTh IV, 368).

holds if the principal significatum is destroyed and the connoted object remains...[65]

Since 'Socrates is similar to Plato' entails the existence of both Socrates and Plato, it may be first true and then false either because Plato first does and then does not exist or because Socrates first does and then does not exist. Likewise, one rod may first be and then not be the double of the other, because the second rod first does and then does not exist, or because the first rod first does and then does not exist. No relative entities—whether real things or beings of reason—need to be assumed to explain the change of truth value in such cases.

Sometimes things may both exist and first be unrelated and then related, or vice versa, because they first exist in one way and then in another.

...Thus, when the cause becomes spatially proximate, it has nothing positive then that it did not have before, but only that negation—viz., that there are not as many in between the spatially proximate cause and the thing acted upon as there are between a cause that is not spatially proximate and the thing acted upon. Thus, the relation is not that through which the cause is formally denominated cause or the product formally denominated cause...[66]

Rather it is the fact that they now exist in such a way as to have fewer things in between them. Again, they would say that the generation or corruption of some entity is not required to explain a change of truth-value in such cases:

...where the same absolute things remain in existence and there is locomotion between them, it is never necessary to assume such relations, but everything is saved through negations. For example, fire cannot act on water unless it is spatially proximate to it; and when it is spatially proximate, it can act. This spatial proximity is not a real relation. But the contradictories 'able to act' and 'not able to act' are successively true of fire because of locomotion by which one negation is acquired in fire that earlier was not in fire – viz., that when fire is spatially proximate, there are not as many things in between fire and water as when

65. *Rep.* II, q.2, (OTh V, 38–39).
66. *Ibid.*, (OTh V, 36).

> they are not spatially proximate. Thus, the negation of many intermediate things is acquired by fire through locomotion, and for this reason it can act now and could not act before...[67]

When Ockham speaks of a negation being acquired in the fire, he does not, of course, mean to imply that negations are entities that inhere in things. Rather he means that a negative proposition becomes true about the fire, and that it does so is to be explained in the case by locomotion without the generation or corruption of any entities.

Further, on this analysis, the truth-value of many statements of the form '*aRb*' will be independent of whether or not—*per impossibile*—anyone ever thinks about it. 'Fire is spatially proximate to water' does not entail the existence of any being of reason, and neither does 'Socrates is similar to Plato', 'Matter and form make a composite', or 'This line is the double of that one'. Rather they assert the existence of states of affairs that do or do not obtain, whether or not—*per impossibile*—anyone ever thinks they do. Hence, this analysis of relation statements will not destroy the unity of the universe, the causality of secondary causes, or the reality of the mathematical sciences, the way that of Scotus's opponent does.

It is one thing to ask what it is for things to be related—i.e., what the truth conditions for statements of the form '*aRb*' are; another to inquire what relations are—i.e., what the truth conditions for statements of the form '*R*-ness exists' are. Scotus has answered the latter by saying that for some statements of the form '*R*-ness exists', the statement will be true, if and only if some thing (*res*) really distinct from its relata exists. And corresponding statements of the form '*aRb*' will be true, if and only if *a* exists and *b* exists and *R*-ness exists and *R*-ness inheres in *a*. By contrast, Scotus's opponent has claimed that statements of the form '*R*-ness exists' are true, if and only if some being of reason exists; and statements of the form '*aRb*' exist and will be true, only if such a being of reason exists. Ockham has offered unaided natural reason a single answer to the first question: viz.,

67. *Ibid.*, (OTh V, 45).

that statements of the form '*aRb*' are true if and only if both *a* and *b* exist in the way connoted by the substitution for '*R*'. So far as Ockham can see, however, adherents of unaided natural reason have a choice between two principal answers to the second question: (i) they can say that 'relation' is a term of first intention, in that it has personal supposition[68] for extramental things other than signs, in addition to anything else it may have personal supposition for; or (ii) they can hold that 'relation is a term of second intention that has personal supposition for concepts only.'[69] In his various discussions, Ockham indicates that the first alternative could be developed in a number of ways. (ia) First, one could allow that 'relation' and particular relation terms—whether concrete or abstract—can be predicated of par-

68. A term has personal supposition in a proposition when it stands in the proposition for those things it has been imposed to signify—e.g., both terms have personal supposition in the proposition 'A man is an animal'; material supposition, when it stands in proposition for tokens of the sound or mark type—e.g., the subject has material supposition in 'Man is a spoken monosyllable'; and simple supposition when it stands for its concept—e.g., the subject has simple supposition in 'Man is a species', according to Ockham. See Part Two, chapter 10 below.

69. In his article "Zur Relationslehre Wilhelms von Ockham," *Franziskanische Studien* XLIX (1967): 248–258, Hermann Grieve tends not to take this first alternative seriously, in the course of defending his conclusion that "Doncoeur schreibt somit zu Recht, dass die Beziehungen für Ockham eine Sache des Verstands geworden sind" (251). But twice at *Ordinatio* I, d.30, q.1, Ockham offers two choices. He says that "a relation is not its foundation, but only an intention and concept in the mind that signifies many absolute things. Or it is many absolute things the way a people is many human beings..." (OTh IV, 314). And again, "'similarity', taken in its abstract form can stand only for an intention in the mind, or for many things each of which is similar; just as 'people' can stand only for many" (OTh IV, 315). Hermann Grieve refers to these passages on p.250, note 12, and simply omits the second disjunct. Later, on p.253, he quotes both and explains, "...Der zweite Teil: 'Vel est plura absolute,' besagt: Die Wirklichkeit, für die eine Beziehung steht, ist die Wirklichkeit mehrerer Absoluta." In fact, Ockham is fairly persistent about posing this choice, and I see no reason to suppose that he favored the one rather than the other. For him, it would not have been a matter of much importance, since, as Grieve notes, "Die Wirklichkeit, um die es geht, ist in beiden Fallen dieselbe" (253).

ticular absolute things. Thus, one could grant 'A quality is a relation',[70] 'Socrates is a relation', 'Whiteness is a relation',[71] 'Socrates is a similarity' and 'Socrates is paternity'.[72] (ib) One could hold that while *concrete* relation terms such as 'similar' and 'equal' can be truly predicated about *a single* absolute thing, the abstract terms 'similarity' and 'equality' signify only *many* absolute things together, so that 'Socrates is similar' and 'Socrates is dissimilar' are true, but 'Socrates is similarity' and 'Socrates is dissimilarity' are false.[73] But 'Socrates and Plato are similarity or equality' may be true.[74] Ockham comments that the latter suggestion is plausible where the relation and co-relation are the same (as with similarity and equality) but not otherwise: he finds 'God and a creature are active creation' odd. (ic) Finally, Ockham takes note of a peculiar common usage according to which 'Whiteness is similarity' and 'Two white things are similarity' are false, while 'Similarity is two white things' would be true.[75] Each of these alternatives seems to imply that statements of the form '*R*-ness exists' are true if and only if both relata exist and exist in the way connoted by substitutions for '*R*-ness'; but they disagree about just what syncategorematic force is built into the meaning of abstract relation terms.

Ockham thinks that Aristotle endorsed (ii).[76] If 'relation' is a term of second intention, it has personal supposition only for the concepts 'similarity', 'equality', 'paternity', etc. Accordingly, 'Socrates is a relation' and 'Whiteness is a relation' would be false,[77] while 'No substance is a relation' would be true and immediate.[78] Likewise 'Similarity is a relation', 'Equality is a relation', etc. would be true. But there is an ambiguity in this

70. *Quodl.* VI, q.17, (OTh IX, 648).
71. *Ibid.*, q.22, (OTh IX, 666).
72. *Ibid.*, q.25, (OTh IX, 680).
73. *Ord.* I, d.30, q.1, (OTh IV, 314).
74. *Quodl.* VI, q.25, (OTh IX, 681–82); cf. *Summa logicae* I, c.6, (OPh I, 21).
75. *Quodl.* VI, q.25, (OTh IX, 681).
76. *Ibid.*, q.22, (OTh IX, 667).
77. *Ibid.*, (OTh IX, 669).
78. *Ibid.*, q.17, (OTh IX, 648).

position. (iia) It could mean that 'Similarity is a relation' is true where 'similarity' is taken to have personal supposition. (iib) Alternatively, it could mean that 'Similarity is a relation' is true where 'similarity' is taken to have simple supposition. There are a few passages in which (iia) may be suggested. For example, in *Ordinatio* I, d.30, q. 1, Ockham writes,

> In reply to another argument, I grant the major, but I reply to the minor that the foundation does not contain such relations—either simultaneous or successively—by being identical with them. For the proposition 'Socrates really is similarity' and the proposition 'Socrates really is dissimilarity' are false. Therefore, I do not assume that a relation is really the same as its foundation. Rather I maintain that a relation is not its foundation, but only an intention or concept in the mind that signifies many absolute things. Or it is many absolute things the way a people is many human beings. But which of these theses represents the more proper use of speech is more relevant to a discussion of logic than of theology.[79]

And again in *Quodlibeta* VI,q. 15,

> I reply to the principal argument that whiteness does not contain similarity or dissimilarity according to perfect identity. For whiteness is not similarity or dissimilarity. But I say that either similarity is a relative concept that signifies many taken together or it signifies many taken together; just as a people is many men and no man is a people, so similarity is many white things and no white thing is similarity...[80]

These texts seem to say that there are two alternatives: we can say that similarity is many white things, or we can say that it is a concept signifying many white things. If all Ockham means here is that we can take 'similarity' in personal supposition, and then the proposition 'Similarity is many white things' is true, or we can take it in simple supposition and then 'Similarity is a concept signifying many white things' is true, he would not seem to have presented any significant option. All terms can be construed as having either personal or simple supposition, and we can just as well say that either a man is an animal (personal sup-

79. (OTh IV, 314).
80. (OTh IX, 638–39).

position) or that a man is a concept that signifies an animal (simple supposition). There is no theoretical choice between these two. Insofar as Ockham purports to be confronting us with a genuine theoretical alternative in these passages, he must be taken as saying that where 'similarity' has personal supposition, we can say either that similarity is many white things, or we could say that similarity is a concept signifying many white things. On the latter option, the adherent of unaided natural reason would agree with Scotus's opponent in maintaining that a statement of the form '*R*-ness exists' is true, if and only if the relevant concept exists.

On the other hand, Ockham clearly represents Aristotle as opting for (iib) in the following passage from *Quodlibeta* VI, q.22:

> ...Therefore, I maintain that, according to the Philosopher's opinion, all of the following propositions, 'Socrates is a relation', 'Whiteness is a relation', 'A man is relative' and 'Whiteness is relative', should be denied. But the propositions 'Father is a relation', 'The Son is relative' and likewise 'Similarity is a relation' should be granted, and this where the subjects have *simple* supposition and the predicates personal supposition...[81]

Again, in *Ordinatio* I, d.30, q.3, Ockham assigns Aristotle the view that

> ...a relative name signifies in relation to something—i.e., it signifies various things of which one is similar or equal to another, etc. In that case, such names do not signify things other than substances and qualities, but signify substances and qualities...[82]

And he goes on to add that according to this view 'Two similar things are similarity' is a true proposition. But if 'similarity' signifies similar substances such as Socrates and Plato, it cannot be that it has personal supposition for concepts only. Rather the view ascribed to Aristotle here is that abstract relation terms have personal supposition for the relata and only simple sup-

81. (OTh IX, 669).
82. (OTh IV, 355).

position for the relation concepts. On this interpretation, the truth conditions for propositions of the form '*R*-ness exists' will vary as the substitutions for '*R*-ness' are taken to have personal or simple supposition. Where personal supposition, the proposition would be true if and only if the relata *a* and *b* both exist and exist in the way connoted by substitutions for '*R*' and '*R*-ness'; where simple supposition, the proposition would be true if and only if the concept corresponding to the substitution for '*R*-ness' existed.

## 8. RELATIONS OF REASON

Just as Scotus held that real relations were relative things (*res*) really or formally distinct from absolute things, so some—including Scotus—thought that relations of reason were relative beings of reason distinct from and inhering in absolute things in the non-real mode of objective or intelligible existence.[83] As Ockham describes it, their view is that

> ...so far as a relation of reason is concerned, the intellect compares one thing (*res*) to another, which is in no way compared in reality, and understands such a comparison to exist in one as in a foundation and the other as a term, and thereby causes a relation of reason between some that are not related in reality.[84]

And they maintain that "just as a real relation is founded on a thing in real existence, so a relation of reason is founded on a cognized thing."[85] Further, they defend the supposed distinction between the relation and its relata by an appeal to separation arguments. Focussing, for example on the relations of being-a-subject and being-a-predicate, they reason that

> ...the subject of a proposition can be cognized as far as everything ab-

83. Thus, Scotus writes that "a relation of reason is a different being of reason from its foundation" (*Ord.* II, d.1, q.4, n.215, (Vaticana VII, 108)).

84. *Rep.* II, q.1, (OTh V, 10).

85. *Ibid.*, (OTh V, 12).

> solute in it is concerned, and so can the predicate; and yet the one no more has the aspect of a subject and the other of a predicate than the other way around. For example, I can distinctly think of a man so far as everything intrinsic to him is concerned, by a simple and non-complex cognition; likewise an animal, whether by the same cognition or by another; and yet not think that a man is a subject with respect to animal. Therefore, it is clear that for man to be a subject and animal a predicate more is required than a cognition of them. But clearly nothing absolute. Therefore, relative. Not a real relation. Therefore, a relation of reason...[86]

And they offer analogous proofs in other cases.

Ockham's response is that "no relation of reason exists," where relations of reason are conceived of as relative entities distinct from and inhering in the relata.[87] Ockham contends that

> ...if we should assume such a relative of reason, this will be especially because of the intentions 'genus', 'species', 'subject', and 'predicate'. But I can understand any of these apart from any relation of reason, since I can understand the concept of genus and species which have only objective existence absolutely, apart from any relation of reason. The same is true of subject and predicate.[88]

As for the separation argument that subject and predicate cannot be understood apart from some relation of reason, Ockham grants the assumption that man and animal can each be thought of without either's having the aspect of a subject or a predicate. Indeed, he admits that both man and animal might be thought of without either's being a subject or a predicate, and he concedes

86. *Ibid.*

87. *Ibid.*, q.1, (OTh V, 8). This claim seems inconsistent with his own objective-existence theory, however. According to it, if certain philosophers think of relations of reason as relative entities distinct from and inhering in their relata, then, in the mode of objective existence, there are such relative entities. Otherwise, these philosophers would be thinking of nothing (see Part One, chapter 3 above). What Ockham could maintain—consistent with his objective-existence theory—is that such relative entities do not figure in the truth conditions for various relation statements the way their sponsors suppose they do. On the mental-act theory, his original statement that there are no such relative entities could be sustained.

88. *Ibid.*, q.1, (OTh V, 7).

that something else is required for them to be related. But he rejects their contention that it must be something relative.

> Suppose you say that the extremes are united in a proposition now and earlier were not. Therefore, something must be acquired for the first time. [I reply that] it is true—something absolute or relative. For when they are united, the absolute concept of the copula that did not exist earlier comes to exist there, and it is because of this absolute thing that they are now said to be united and earlier were not.[89]

Returning to their example,

> ...a man can be thought of and so can an animal; and yet it is not necessary that a man is a subject or that animal is a predicate, since a certain absolute concept indicated by the verb 'is' is lacking. But given this concept, together with the concepts of man and animal, whether they are thought of by a single act or by distinct acts, it is necessary that 'man' is the subject and 'animal' the predicate, apart from any relation of reason in between.[90]

It may be objected that if the concept of the copula is merely another absolute concept, distinct from and additional to the concepts of man and animal, it will do nothing to link the latter together in a proposition. Ockham rejects this objection:

> I reply that [the concept of the copula] is a common concept distinct from the concepts of the extremes, the way one being of reason is distinct from another or from a real being. I maintain that if I had only a concept of the copula and no concept of the extremes, then I would not have [a concept of] either subject or predicate. But if I had a concept of the copula and also a concept of the extremes, whether by one act or by three—one of which has the term that is the subject as its object, the other the copula, and a third the term that is the predicate—I would necessarily have a subject and a predicate, apart from any relation of reason.[91]

Just as the existence of one white thing does not suffice to make the proposition 'This white thing is similar to that' true but the

89. *Ibid.*, (OTh V, 19).
90. *Ibid.*, (OTh V, 17–18).
91. *Ibid.*, (OTh V, 18–19).

existence of two white things does, apart from any real relative thing distinct from them; so neither the objective existence of the concept of the copula nor the objective existence of one or both extremes suffices to make 'Man is subject' or 'Animal is predicate' true, but the objective existence of all three does, apart from any relative being of reason distinct from them.

The adequacy of Ockham's reply may be questioned, however. For it seems logically possible that the concepts of man, animal, and the copula all have the objective existence in my mind without 'man' being a subject and 'animal' a predicate: e.g., if I think the proposition 'An oak is a tree' and think the concepts of man and animal, without thinking the proposition 'A man is an animal'. Again, the objective existence of the concepts of man, animal, and the copula cannot suffice for 'man' to be a subject and animal a predicate, since they would all have objective existence when I think the proposition 'An animal is man' and think no other propositions. If Ockham denies that the objective existence of any further entities is required, he should at least stipulate that the extremes and the copula must not only have objective existence, but also that they must exist in a certain way in the mode of objective existence, and that they exist in a different way when 'man' is subject and 'animal' predicate than when 'animal' is subject and 'man' predicate. How to specify this difference is a problem that Ockham confronts briefly in his commentary on Aristotle's *Perihermenias* and finds difficult to resolve (see Part Two, chapter 11 below).

As Ockham sees it, unaided natural reason would give real relations and relations of reason a uniform treatment. It would deny that they are entities distinct from absolute entities, on the ground that no possible entity is. Nevertheless, it would acknowledge that some connotative names or concepts may be called relative because of the way they signify; and relations may be identified either with such names or concepts or with the absolute thing or things signified by them.[92]

92. For his account of real relations, see section 7 above. As for the analogous treatment of relations of reason, he writes that "relations are not the sort of things that others imagine them to be. Nor are relations—whether

If so, it may be asked how unaided natural reason could preserve the distinction between the two sorts of relations? On the view Ockham has rejected, they are easily distinguished in terms of their ontological status: real relations are real things (*res*); relations of reason, beings of reason.

Ockham replies first that it is not all that important for unaided natural reason to retain this distinction, since 'relation of reason' is not a philosophical term; Ockham cannot remember ever finding it in the works of Aristotle.[93] Nevertheless, it is possible to preserve the distinction for the sake of common usage. Ockham proposes that it is a necessary[94] and a sufficient condition[95] of a term's being or signifying a relation of reason that things would not be of the sort that the term denotes to be apart from any act of intellect:

(P) A term is or signifies a relation of reason as opposed to a real relation, if and only if (a) it is or signifies a relation and (b) things would not be of the sort that the term denotes to be apart from any act of intellect.

(P) seems to make two sorts of cases relations of reason. One sort of case occurs when a statement of the form '*aRb*' is true, but one or both of *a* and *b* is an act of intellect or a concept. Since a concept would not exist— whether objectively or in reality—apart from any act of intelligence, a fortiori it would not be of the sort signified to be by any relation term apart from any act of the intellect. Another sort of case is one in which *a* and *b* both exist in reality apart from any act of intellect, but are

real relations or relations of reason—even caused the way some imagine that they are. Rather, besides the signs that are, in themselves, certain absolute things, and the absolute things they signify, there is nothing. Therefore, even a relation of reason is either those absolute things or the sign that is absolute in itself, and yet the sign is called relative because it signifies something while connoting something else or the same thing in some other way" (*Ord.* I, d.35, q.4, (OTh IV, 477); cf. *Rep.* II, q.1, (OTh V, 12)).

93. *Ord.* I, d.30, q.5, (OTh IV, 385); *Quodl.* VI, q.30, (OTh IX, 699).
94. *Ord.* I, d.31, q.1, (OTh IV, 396); *Rep.* II, q.1, (OTh V, 15–16).
95. *Ord.* I, d.30, q.5, (OTh IV, 385–86); *Quodl.* VI, q.30, (OTh IX, 699).

not of the sort the relation term signifies to be apart from any act of the intellect.

Ockham seems to acknowledge a significant difference between the two sorts of cases when he takes the trouble to distinguish a broader and a stricter way of understanding 'relation of reason' in *Ordinatio* I, d.35, q.4.[96] Broadly,

(Q) A term is or signifies a relation of reason if and only if (a) it is or signifies a relation and (b) things cannot be of the sort expressed by the relative name apart from some rational act or power.

(Q) is in fact broader than (P), since (Q) allows the relation to depend either on some act of intellect or on some rational power. And Ockham comments that this way being thought of, being intelligible, being a subject and being a predicate are all relations of reason.[97] And God's eternal relation of thinking of creatures is a relation of reason "because the divine essence itself"— i.e., one of the relata—"is a single cognition."[98] In the strictest sense, however,

(R) A term is or signifies a relation of reason, if and only if (a) it is or signifies a relation, and (b) if *a* and *b* exist together with a certain (other) act of intellect or will, then they are of the sort the relation term denotes to be, and (c) if *a* and *b* exist without a certain (other) act of intellect or will, then they will not be of the sort the relation term denotes to be.[99]

Ockham says that God's relation of thinking of creatures from eternity is not a relation of reason, according to (R),[100] because it is not logically possible that God's act of thought should exist and the creatures exist (in reality or objectively) and not be so

96. (OTh IV, 472).
97. *Ibid.*
98. (OTh IV, 476).
99. *Ibid.*; cf. (OTh IV, 472).
100. (OTh IV, 476).

related, no matter what acts of intellect or will besides God's thought fail to exist. Presumably, the natural signification of concepts will not be a relation of reason in this strictest sense either; for it is not logically possible that the concept of man and Socrates should both exist and the latter not be signified by the former, no matter what other acts of intellect or will exist or fail to exist. On the other hand, the conventional signification of a spoken sound and the value of money are relations of reason, according to Ockham:

> ...For a spoken sound is a sign and money is precious only by a previous act of the intellect or will by which we will to use the spoken sound or the money this way. And given that there is or at one time was such a volition in us, and that there was no contrary volition, immediately, apart from the addition of anything else, a spoken sound is a sign and money is precious...[101]

Likewise, the relations of being-a-master and being-a-slave between creatures are relations of reason because they depend upon conventionally established property laws, etc.[102] Thus, it is clear that relations of reason may obtain, not only between beings of reason, but between real things.[103]

101. (OTh IV, 472); cf. *Quodl.* VI, q.30, (OTh IX, 699).

102. *Ord.* I, d.35, q.4, (OTh IV, 472).

103. Contrary to what Hermann Grieve says in his article "Zur Relationslehre Wilhelms von Ockham," *Franziskanische Studien* XLIX (1967): 248–258. For example, he explains that for Ockham, "Sind die Extrema einer Beziehung, genauer: die Absoluta für die ein Beziehungsbegriff steht, von der Verstandestätigkeit unabhängige wirkliche Dinge, so handelt es sich um eine reale Beziehung. Diese wird jedoch nur zu Recht ausgesagt, wenn die Dinge die die Beziehung supponiert bzw. supponieren soll, ganz bestimmter Beschaffenheit sind. Geht es um eine Ähnlichkeitsbeziehung, so müssen sie zum Beispiel wirklich weiss sein. Ist dagegen zumindest eines der Extrema nur auf Grund einer vorgangigen Verstandestätigkeit der Beschaffenheit, dass zu Recht von einer Beziehung gesprochen werden kann, so handelt es sich um eine Vernunftbeziehung..." (252). And again, he comments, "...Dazu, dass eine Beziehung real genannt werden kann, ist es nicht erforderlich, dass sie etwas Wirkliches (reale) ist. Es genügt, dass sie für wirklich Dinge, die freilich als solche weder Beziehungen sind noch Beziehungen enthalten, supponieren kann" (253). But 'conventional sign' supposits for really existent spoken sounds and connotes what they signify—in many cases, real things.

On the other hand, Ockham suggests that it is both a necessary[104] and a sufficient condition[105] of a relation term's being or signifying a real relation that things are of the sort the term denotes to be apart from any activity of the intellect:

(S) A term is or signifies a real relation, if and only if (a) the term is or signifies a relation, and (b) things are of the sort that the term denotes to be apart from any activity of the intellect, so that the activity of the intellect does nothing to bring it about that things are of this sort.

Taken at face value, (b) would have the consequences that no concept or act of thought can have a real relation to anything. But Ockham evidently understands (b) to refer to activity of the intellect other than any that may be required for the mere existence of one or both of the extremes; for he allows that God's thought of creatures is a real relation.[106] Ockham's contemporaries noticed another difficulty with (S)—viz., that it seems to allow that

> ...something has a real relation to a non-being: e.g., that matter has a real relation to the form with respect to which it is in potentiality, since—leaving aside any activity of the intellect—matter is genuinely in potentiality to form.[107]

This consequence would be absurd on the view that real relations are real things distinct from and inhering in their relata; for a real thing cannot inhere in something that does not exist. On the theory Ockham has proposed for unaided natural

Again, 'master' and 'slave' supposit for real things: and so does 'precious' in 'Money is precious'. Nevertheless, in the passage cited by Grieve himself—*Ord.* I, d.30, q.5, (OTh IV, 385–86)—in note 26, p.252, Ockham identifies these as relations of reason.

104. *Quodl.* VI, q.25, (OTh IX, 678).

105. *Ord.* I, d.30, q.5, (OTh IV, 386); cf. (OTh IV, 384) and *Quodl.* VI, q.30, (OTh IX, 700).

106. *Ord.* I, d.35, q.4, (OTh IV, 476–77).

107. *Ibid.*, d.30, q.5, (OTh IV, 387); cf. *Quodl.* VI, q.25, (OTh IX, 679).

reason, however, it becomes "more a verbal than a real difficulty."[108] One could stipulate that

(T) A term is or signifies a real relation, only if both relata actually exist in reality.[109]

And in *Ordinatio* I, d.35, q.4, Ockham says that (T) is true when 'real relation' is taken strictly and draws the conclusion that, strictly speaking, God's relation of understanding creatures from eternity is not a real relation because creatures do not really exist from eternity.[110] On this understanding, matter's relation of being in potentiality to some form will not be a real relation either.[111] And the division between real relations as defined by (T) and relations of reason as defined by (Q) and (R) will not be exhaustive. In *Ordinatio* I, d.30, q.5, Ockham concludes that given (T), "it is necessary to assume something in between real relation and relation of reason, which some call a potential or aptitudinal relation, although perhaps not properly speaking."[112] But this suggestion is omitted from the discussion in *Quodlibeta* VI, q.25. On the other hand, one could retain (S) as the criterion for real relations and understand it to apply whether the relata actually exist in reality or only potentially. That way, matter's potentiality to forms will count as a real relation;[113] and God's thought of creatures not yet actual as well as His thought of those that actually exist, will be a real relation in this broad sense.[114]

## 9. OCKHAM'S OWN VIEW

Ockham thinks that we should assume the existence of relative entities distinct from absolute entities, only if we are

108. *Ord.* I, d.30, q.5, (OTh IV, 387); cf. *Quodl.* VI, q.25, (OTh IX, 680).
109. *Ord.* I, d.30, q.5, (OTh IV, 387); *Quodl.* VI, q.25, (OTh IX, 680).
110. (OTh IV, 476).
111. *Ibid.*, d.30, q.5, (OTh IV, 387); *Quodl.* VI, q.25, (OTh IX, 680).
112. (OTh IV, 387).
113. *Ord.* I, d.30, q.5, (OTh IV, 387); *Quodl.* VI, q.25, (OTh IX, 680).
114. *Ord.* I, d.35, q.4, (OTh IV, 476).

forced to do so by experience, theoretical arguments, or the authority of the Scriptures and the Church. Where real relations are concerned, no experience could lead us to this conclusion. And Ockham has argued at length that unaided natural reason will find it easier to deny than to hold that there are any such relative things (*res*) really or formally distinct from absolute things. Nor does any authority require us to admit any exceptions to this conclusion where intrinsic relations—such as similarity and dissimilarity, double and half, identity and distinction[115]—or the extrinsic relations of causality, paternity, and filiation in creatures are concerned. Finally, Ockham has insisted—contrary to his own objective-existence theory—that neither reason nor experience forces us to concede the existence of relative beings of reason distinct from absolute entities, whether real or unreal. Nevertheless, Ockham concludes, there is theological motivation to assume the existence of some real relations really distinct from absolute things. (a) First, the doctrine of the Trinity requires us to say that the Father is not Father by that by which He is God; likewise for the Son and Holy Spirit. Further, Augustine has argued that the Father is called Father only in relation to another; likewise for the Son and Holy Spirit. But not in relation to creatures. The theological conclusion was that there must be some distinction in reality between the divine essence and that by which the persons are constituted. Ockham's predecessors and contemporaries felt bound by the Fourth Lateran Council to maintain that Paternity, Filiation, and Spiration are three relative things that are really distinct from each other but really the same as the divine essence.

(b) Second, the doctrines of the Incarnation and Transubstantiation seem to demand the assumption of still more relative things. In the Incarnation, the Divine Word unites itself to human nature in such a way as to become the same person as a particular human being. In Transubstantiation, God brings it about that the accidents of the bread exist in the same place as the body of Christ without inhering in it. Further, God can bring

115. *Ibid.*, d.30, q.4, (OTh IV, 367); *Rep.* II, q.1, (OTh V, 15–17).

it about that all of the parts of the body of Christ exist at a single point; yet the part of the substantial form that exists in His foot exists in the same place as the matter of His hand without the former inhering in the latter.

Ockham comments that "there is only one argument for all of these cases," based on (A'): "It is impossible for contradictories to be successively true about the same thing unless because of the locomotion of something, or because of the passage of time, or because of the production or destruction of something." Its application may be schematically set out as follows:

1.1 It is possible for human nature first to be united and then not be united to the Divine Word, or vice versa, apart from any locomotion.
1.2 This change cannot be explained by the mere passage of time.
1.3 Therefore, this change is to be explained in terms of the production or destruction of some thing (*res*). ((A'), 1.1, and 1.2)
1.4 Not any absolute thing.
1.5 Therefore, this change is to be explained in terms of the production or destruction of some real relation of union really distinct from absolute things. (1.3 and 1.4)

2.1 God can bring it about that a form equally present to the same matter first did not and then did inform the matter, or vice versa.
2.2 This change cannot be explained by the mere passage of time.
2.3 Therefore, this change is to be explained in terms of the production or destruction of some thing (*res*). ((A'), 2.1, and 2.2)
2.4 Not any absolute thing.
2.5 This change is to be explained in terms of the production or destruction of a real relation of inherence distinct from absolute things. (2.3 and 2.4).

3.1 God can bring it about that an accident is equally present

to the same substance and yet first does and then does not inhere in it, or vice versa.

3.2 This change cannot be explained in terms of the passage of time.

3.3 Therefore, this change is to be explained in terms of the production or destruction of some thing (*res*). ((A'), 3.1, and 3.2)

3.4 Not any absolute thing.

3.5 Therefore, this change is to be explained in terms of the production or destruction of a real relation of inherence distinct from absolute things. (3.3 and 3.4)[116]

Ockham remarks that the above arguments would not convince the Philosopher, "because he would deny all of the minor premises. Nor could these minor premises be proved by reason."[117] The Philosopher would say that it is logically impossible that matter and form, subject and accident should exist in altogether the same place and yet the latter not inhere in the former, and hence that 2.1 and 3.1 are false. Presumably, one who took his lead from unaided natural reason would say that 'inherence' principally signifies the form or the accident and connotes the matter or the substance and connotes that the form or accident is in altogether the same place as the matter or substance, respectively. On this account, the fact that this form and this matter (this accident and this substance) exist from $t_1$-$t_{10}$ and the former first does and then does not inhere in the latter, has to be explained in terms of the fact that they first are and then are not in altogether the same place. And the latter fact can be explained in terms of the locomotion of one or both of them. Thus, Ockham remarks that "if it were impossible for an acci-

116. *Ord.* I, d.30, q.4, (OTh IV, 369–370); *Rep.* II, q.1, (OTh V, 14–16); q.2, (OTh V, 38–40). In *Reportatio* II, q.1, (OTh V, 15), he adds an argument for spatial proximity; but later on in the same question (at (OTh V, 24)), he reverts to the line taken in *Ordinatio* I, d.30, q.1, that it can be accounted for in terms of locomotion. And the latter view is repeated at *Reportatio* II, q.2 (OTh V, 35–36). He alludes to the first two arguments in *Reportatio* IV, q.2, (OTh VII, 29–31) and to the last in *Quodlibeta* IV, q.28, (OTh IX, 411) where he affirms 3.5.

117. *Ord.* I, d.30, q.4, (OTh IV, 370); cf. (OTh IV, 372).

dent to be separated from its subject or a form from its matter without their being in different places, I would not assume any relation there, since I would save by locomotion whatever you save by relation."[118] Given the denial of 2.1 and 3.1, (A') will not require us to assume any relative thing really distinct from absolute things.[119]

118. *Rep.* II, q.2, (OTh V, 40).

119. Despite Ockham's apparent appreciation of this approach in *Ordinatio* I, d.30, q.4, (OTh IV, 369–370) and *Reportatio* II, q.2, (OTh V, 38ff), he is surprisingly uncomprehending of and unsympathetic to a similar suggestion raised in *Reportatio* II, q.1. Thus, he writes,

> Suppose you say that, by the same token, it is not necessary to assume the existence of the other extrinsic relations. For the union of parts in a whole does not signify the parts absolutely, but signifies it insofar as they are in the whole. Likewise, the inherence of an accident does not signify the accident absolutely, but signifies it insofar as it is in a subject. Therefore, when it is not in a subject, 'inherence' cannot be predicated of it—and this apart from any relation in between (OTh V, 16–17).

Ockham's reaction is decidedly negative:

> On the contrary, when you say that 'inherence' signifies the accident in a subject, I ask whether 'inherence' signifies precisely the absolute accident, or signifies the absolute accident while connoting the subject, or signifies a relation. Not the first or second way, because whenever an absolute accident and subject existed, 'inherence' would be predicated of the accident the way 'similarity' is predicated of other things—which is obviously false, if God were to separate an accident from its subject while conserving both in existence. Therefore, the third alternative remains and my contention is established. Likewise, if it signified an accident insofar as it is in a subject, what does 'accident insofar as it is in a subject' add beyond 'accident' taken absolutely? Either nothing or something. If something, either it is absolute or relative, and the argument goes as before. And so it is clear, therefore, that it is not necessary to suppose that there are any real relations in the genus of relation and distinct from their foundations or any relations of reason in God. But it must necessarily be supposed that there are some extrinsic relations (*ibid.*).

Neither argument seems to give the suggestion that 'inherence' is a connotative term that signifies the accident *insofar as it is in the subject* a fair hearing. In both Ockham takes the suggestion to be merely that 'inherence' principally signifies the accident and connotes the subject, and draws the conclusion that in that case the accident would inhere in the subject

The rejection of 2.1 and 3.1—an option excluded by the authority of the Church—permits Aristotle to explain why form or an accident first does and then does not inhere in matter or a subject, without assuming the existence of anything besides the form and matter or the accident and subject, respectively. Another way to avoid the conclusion that there are relative things really distinct from absolute things, is to suppose that the additional things are distinct absolute things. Ockham has argued in *Ordinatio* I, d.30, q.1, that from the point of view of unaided natural reason, there is no criterion for distinguishing some of the things that there are as relative rather than absolute things.[120] Ockham can think of only three criteria

whenever both existed. Presumably, however, the thought was that 'inherence' principally signifies the accident and connotes not only the subject but also that the accident is in the subject. The last condition will not always be satisfied whenever both subject and accident exist.

Perhaps the thrust of Ockham's argument is that this account is circular. We are trying to explain what it means for an accident to inhere in a subject; we are in effect being told that it is for both the accident and the subject to exist and for the accident to be in the subject. But precisely what we wanted to know is what 'to be in the subject' adds to 'accident'. On the other hand, it is not circular to explain that 'inherence' principally signifies the accident and connotes both the subject and that the accident and subject are in altogether the same place.

A similarly obtuse remark occurs a little earlier. Speaking of the arguments laid out above, Ockham warns that "these conclusions cannot be avoided by an appeal to grammatical or logical modes. For if no intellect existed, and hence no grammatical or logical modes, still the extremes of a contradiction could be successively true about some things, as is clear in the examples already given" (*ibid.*, (OTh V, 15–16)). This comment seems to misrepresent the general strategy that Ockham himself has proposed on behalf of those who follow unaided natural reason, however. For according to them, 'inherence' does not principally signify or connote any being of reason for whose existence the existence and activity of some intellect is required. So far as they understand the term 'inherence', things may first not be and then be of such a sort as to be signified by that term apart from any activity of the intellect, because it may first be and then not be the case that they are not in altogether the same place. And, as noted above, this can be explained in terms of the locomotion of one or both of them apart from any activity of the intellect.

120. (OTh IV, 306–307).

that have any initial plausibility. One might say that some thing (*res*) *a* is not an absolute but a relative thing because either (i) *a* is essentially dependent on some other thing *b*; or (ii) *a* cannot exist unless some other thing *b* exists, although *b* can exist without *a*'s existing; or (iii) *a* cannot exist unless *b* exists, and *b* cannot exist unless *a* exists. But (i) does not provide a sufficient condition for saying *a* is not an absolute but a relative thing; for every effect is essentially dependent upon its cause, but no one says that every effect is a relative thing. All creatures are effects, but Socrates and his whiteness are paradigm cases of absolute things. (ii) does not provide a sufficient condition for identifying *a* as a relative thing either. For

> ...necessarily, if a man exists, he exists together with God. Indeed, it is a contradiction that a man exists without God. Nevertheless, a man is genuinely an absolute thing.[121]

Nor, from the point of view of unaided natural reason, is (iii) a sufficient condition.

> ...For following natural reason, it should be said that no accident can exist without its subject and no subject without its accidents. Yet, each is genuinely an absolute thing. Thus, I may just as easily say that whiteness is a relation to something else as that any other imaginable thing (*res*) is...[122]

Thus, "it cannot be shown by reason that any thing (*res*) really distinct from another thing (*res*) is not just as absolute as any other..."

Thus, Ockham notes, the distinction of divine persons from one another could be preserved by supposing that

> ...three really distinct absolute things, none of which is formally the divine essence, exist in God; and that one of them is the Father and not the Son, and one of the absolute things is really the Son and not the Father—nevertheless in such a way that 'the Father' would not signify anything in reality in addition to that absolute thing, any more than

121. (OTh IV, 307).
122. (OTh IV, 308).

> 'creator' signifies anything in reality in addition to God who creates.[123]

Similarly,

> So far as the second difficulty about the union of the human nature to the divine word is concerned, some would perhaps say that just as, according to others, it is only because a relation informs human nature that it can be said that God is a man; so perhaps they would say that it is because an absolute form—that is much more perfect than such a relation would be and much more consonant with the divine nature—informs the human nature, that it can be said that God is truly a man. And this would only be to say that human nature is united to the Word or to God.[124]

Thus, the conclusion 1.5 is avoided by denying 1.4. It would seem that the same approach would be available in dealing with the second and third arguments—viz., that of denying 2.4 and 3.4 and maintaining that inherence is not a relative but an absolute thing really distinct from the form and the matter or the accident and the substance, respectively. For some unexpressed reason, Ockham does not think so; he writes,

> It might be more difficult to reply to the other two difficulties, however, unless someone were to say that God could not bring it about that a form is intimately present to matter without informing it, or that an accident is altogether in the same place as its subject without informing it.[125]

This remark is the stranger in view of Ockham's arguments in *Ordinatio* I, d.30, q.1.[126] But whether the appeal to additional absolute things rather than relative things would be in principle available in all or only in some of the doctrinal cases, Ockham does not personally endorse it for any. Rather he follows the tradition of the Saints in supposing that there are really distinct relative things in each case. On examination, Ockham's conces-

123. *Ibid.*, q.4, (OTh IV, 370–71).
124. *Ibid.*, (OTh IV, 371).
125. *Ibid.*, (OTh IV, 372).
126. (OTh IV, 306–308).

sions to the thing-theory of real relation are quite substantial. Ockham concentrates on the cases specifically involved in the doctrine—those involving the body of Christ and the accidents of the bread. But the body of Christ is part of Christ's human nature and hence a creature. What God can do to it and to the accidents of bread, he can presumably do to other created substances and accidents. Thus, if God can bring it about that the accidents of the bread exist in exactly the same place as the substance of the body of Christ without inhering in it, he could bring it about that the accidents of any substance, while remaining in exactly the same place as the substance, first did and then did not inhere in that substance. And if He can bring it about that the matter of Christ's hand exists in exactly the same place as the substantial form of His foot without the latter form inhering in the former, then God can bring it about that any substantial form inhering in some matter, while remaining in exactly the same place as the matter, first inheres in it and then does not. If these are genuine logical possibilities, it must be that inherence is a relative thing really distinct from accident and substance, form and matter, and that such a relative thing is present in every genuine case of an accident's inhering in a substance or a form's inhering in matter. Ockham himself seems to concede this extension of his conclusion to other creatures when he says that

> ...in the proposition 'Whiteness inheres in Socrates' it is better to say that the copula signifies the actual inherence,[127]

where it is clear in the context that such a relation is supposed to be a thing really distinct from Socrates and his whiteness.

Oddly, Ockham does not acknowledge this consequence. In *Ordinatio* I, d.30, q.4, he concludes that

> ...we can save everything without any relation in the genus of relation and without any action and passion of that sort and without when, where, position, and habit. Nevertheless, we cannot save everything without Paternity in God or a relation of union.[128]

127. *Rep.* II, q.1, (OTh V, 22–23).
128. (OTh IV, 373–74).

And in *Reportatio* II, q.1, Ockham remarks that while "it is necessary to assume some extrinsic relations that do not formally pertain to any genus,"[129] "it is not necessary to assume any relation in the genus of relation distinct from its foundation..."[130] And the same point is repeated in *Quodlibeta* VI, q.27;

> ...'relative' cannot supposit for the thing which is not a sign, but only supposits for signs, at least according to the intention of the Philosopher. According to Truth, it can supposit for no extramental created thing...[131]

The divine relations of Paternity, Filiation, and Spiration are not in the genus of relation, because they are really the same as the divine essence, which does not fall under any of the ten categories. Perhaps the relation of union that inheres in human nature and relates it to the Divine Word is not said to be in the genus of relation because—while it inheres in a creature—it relates a creature to God. But the relations of inherence of form in matter and of accident in substance relate one creature to another. And even if Ockham had limited such relations to the body of Christ alone— a move that lacks rationale—that body is still a creature and real relations among its parts should, accordingly, fall under the genus of relation. Probably the explanation lies in the fact that inherence—the relation between any putative accident-thing and its substance—is not included under any of the species of relation or other accidents recognized by Aristotle in the *Categories*.

129. (OTh V, 14).
130. (OTh V, 16).
131. (OTh IX, 689).

# 8

# Quality

Ockham thinks that distinct real things (*res*) correspond to the category of substance and the category of quality. He never defends his conviction that there are any such things as substances or his choice of substance as the basic ontological category. It is not the only possible selection. More recent philosophers have fixed instead on processes, events, or space-time slices as ontologically fundamental. But Ockham's regard for substance is hardly surprising in view of the dominance of Aristotelian philosophy in the late thirteenth and fourteenth century metaphysics.

More striking in view of his general program of ontological reduction is his contention that qualities are things really distinct from substance. After all, Ockham has argued that when 'This air occupies four cubic feet' and 'This air occupies five cubic feet' are true successively, there are no such really distinct quantity-things as four-cubic foothood and five-cubic foothood which inhere successively in the air; rather the air and its parts exist first one way and then another (see chapter 6 above). Again, for 'Socrates is spatially proximate to Plato' to be first false and then true does not involve the successive inherence of any such really distinct relation-things as spatial distance and spatial proximity in Socrates and Plato, but only Socrates and Plato existing first one way, with many things in between them, and then another way, with few things in between them (see chapter 7 above). Why should not Ockham also maintain that for Socrates to be first white and then black, is not for things really distinct from Socrates—viz., whiteness and blackness—to inhere in him successively, but for Socrates himself to exist first one way and then another? Again, if God can bring it about that air is extended through four cubic feet without any quantity

really distinct from and inhering in the air, and bring it about that Socrates and Plato are spatially proximate without any really distinct relations of spatial proximity, why can He not bring it about that Socrates is white without any really distinct whiteness? And if He can, is it not superfluous to suppose that there are any such really distinct whitenesses?

Nor was the thesis—that no quality is a thing (*res*) really distinct from substances—entirely overlooked by fourteenth century philosophers. The author of an anonymous *Physics*-commentary in the second half of the fourteenth century opines that "it is indeed possible that neither heat nor cold are things distinct from their subjects" and that "when fire heats water, it produces nothing but makes something to be otherwise (***aliter se habere***)."[1] And John Mirecourt allows as rationally defensible the view that acts of thought, sensation, and volition are not things (*res*) really distinct from the thinking, sensing, or willing substance.[2] The general thesis was condemned by the bishop of Paris in 1347, no doubt in part because it seemed to contradict the doctrine of transubstantiation (see chapter 6 above). John Buridan explains this reasoning clearly in the following passage:

> This goes against those things that we hold concerning the sacrament of the altar. For there the accidents remain without the subject. Therefore, the bread, which was white, large, and of a certain shape, was not the whiteness, largeness, or the shape which remain in the sacrament. For these remain when the substance of the bread does not remain. Thus, the syllogism 'This substance of bread will not remain and this whiteness will remain; therefore, this whiteness is not the substance of the bread' holds good.[3]

We can see that the sensible qualities of the bread and wine —their color, flavor, odor, temperature, etc.—remain after the consecration. According to the doctrine of transubstantia-

1. Translated from quotes in Anneliese Maier, *Zwischen Philosophie und Mechanik*, (Rome, 1958), 330. This interesting essay is primarily concerned with issues about locomotion.

2. Translated from Maier, *op. cit.*, 333.

3. *De anima* III, q.11, translated from Maier's quote, *op. cit.*, 335.

tion, the substances do not remain. Therefore, by the Indiscernibility of Identicals, such qualities must be distinct from the substances. And since they really exist, they must be really distinct things (*res*).

Perhaps projecting this later drama back onto Ockham, some commentators have suspected that it was primarily for theological reasons that he conceded any qualities to be things really distinct from substances. Initially plausible as this hypothesis may seem, I think an examination of the texts will suggest that, on the contrary, Ockham found the category of quality to be a topic about which faith and reason were in full agreement. For one thing, when Ockham explicitly turns his attention to the question of whether qualities are things really distinct from substances, he does not invoke theological dogmas to decide the issue but the now familiar

(A′) Necessarily, if first *p* is true and then not-*p* is true, then either some thing (*res*) has been produced in existence for the first time, or something that did exist has ceased to exist, or some locomotion has actually (or potentially) occurred.

And the view that he endorses as his own in *Quodlibeta* VII, q.2, is almost *verbatim* the same as the one he assigns to Aristotle in *Summa logicae* I, c.55, and identical in substance with that outlined as Aristotle's in his *Commentary on the Categories,* c.14. Where Ockham thinks that faith and natural reason lead to different conclusions—as, for example, with the category of relation (see chapter 7 above) and with future contingents (see Part Five, chapter 27 below)—he does not hesitate to distinguish what must be said "by those who follow unaided natural reason" or "from the Philosopher's point of view" and what must be held according to "Truth" and "the Faith." That Ockham makes no such contrast here is strong presumptive evidence that he regarded the thesis that some qualities are really distinct from substances as not only theologically necessary but indicated by unaided natural reason as well.

Indeed, in examining the ontological question about quali-

ties, Ockham scarcely considers the possibility that *no* quality is a thing really distinct from substance, but thinks his main opponents are the moderns who hold that *every* quality is.[4] In chapter 8 of the *Categories*, Aristotle divides the genus of quality into four principal sorts (*modi*) or species. The first includes longer-term (*habitus*) and shorter-term dispositional properties (*dispositiones*), such as virtue and health; the second species is that of natural capacities or incapacities; the third, affective qualities (*passiones*) including the Lockean secondary qualities of color, flavor, odor, temperature, etc; and the fourth, the shape and external form of a thing, straightness, curvature, etc.[5] And some moderns had argued on the basis of

(A) There can be no passage from contradictory to contradictory apart from the generation or corruption of some thing (*res*),

for the conclusion that "each quality is a thing really distinct from substance and quantity and relative things," and that the contents of the four species of qualities "are really distinct from one another."[6] Thus, by (A), 'Socrates is sick' and 'Socrates is healthy' could not be successively true unless something really distinct from Socrates—say, a really distinct quality of health—were produced; likewise 'Cleopatra is beautiful' and 'Cleopatra is ugly' could not be successively true unless a really distinct thing—say the quality of beauty—first inhered in Cleopatra and then was corrupted.

Once again, Ockham charges that the moderns have been ontologically too permissive. And he uses (A′) together with the razor to argue that some qualities are things (*res*) really distinct from substance while some are not. Thus he writes that

> ...it is convenient to use this method for knowing when a quality should be assumed to be a thing other than a substance and when not:

4. *Summa logicae* I, c.56, (OPh I, 182–83).

5. Cf. *ibid.*, c.55, (OPh I, 181); *Expos. Praedicam.*, c.14, (OPh II, 269, 274, 276, 282).

6. *Summa logicae* I, c.56, (OPh I, 182–83).

> when some predicables can be truly assserted of the same thing successively but not simultaneously because of locomotion alone, it is not necessary for these predicables to signify distinct things...[7]

And since by Ockham's razor "when a proposition comes out true for things (*res*), if one thing (*res*) is enough for its truth, it is superfluous to assume two," such really distinct qualities should not be assumed. On the other hand, if locomotion is insufficient to accout for this, they should be assumed. And Ockham reasons that

> ...qualities of the third species are really different from substance. Proof: It is impossible for anything to pass from contradictory to contradictory without acquiring or losing anything where this is not saved by the passage of time or by locomotion. But a man is first not white and then white, and this transition is not saved by locomotion or the passage of time. Therefore, whiteness is really distinct from a man.[8]

But "qualities of the fourth species, such as figure, curvature, density rareness, etc., are not things distinct from substance and other sensible qualities,"[9] because

> ...such predicables as 'curved' and 'straight' could be successively true of the same thing because of locomotion alone. For when something is straight, if the parts are brought closer together, so that they are less distant than before, by locomotion without any other thing coming to it, it is called 'curved'. For this reason, 'curvature' and 'straightness' do not signify things (*res*) other than the straight or curved things. Likewise for 'figure', since by the mere locomotion of some of its parts a thing can come to have different figures...[10]

Likewise, Ockham maintains that some dispositional properties are not things really distinct from substances and other qualities. For example, "health is not a quality distinct from

7. Proposed for Aristotle in *ibid.*, c.55, (OPh I, 180) and on his own behalf in *Quodl.* VII, q.2, (OTh IX, 708).

8. *Ibid.*, (OTh IX, 707); cf. *Summa logicae* I, c.55, (OPh I, 180–81).

9. *Quodl.* VII, q.2, (OTh IX, 707); cf. *Summulae Physicorum* III, c.15, 65–67, (OPh VI).

10. *Summa logicae* I, c.55, (OPh I, 180); *Quodl.* VII, q.2, (OTh IX, 708).

other qualities, because it is only a required or determinate proportion of the humors." Again, 'beauty' "does not signify anything besides the size of the parts, their color, and other qualities required for beauty."[11] On the other hand, he argues that knowledge and virtue are such distinct things:

> ...everything that has the power to do an action that it did not have the power to do earlier—where there is no difference in the thing acted upon—has an absolute thing that it did not have earlier or lacks an absolute thing that it had earlier. But the intellect and will that have these dispositions (*habitus*) have the power to do something that they could not do earlier, as is clear from experience. There is no difference in the thing changed—say in the intellect or will—since neither locomotion or any other act is an obstacle to its receiving these dispositions.[12]

And as a general rule, where the act by which a disposition is exercised is a thing really distinct from substance and other qualities, so is the disposition.[13] Again, Ockham uses (A') to argue for the existence of other, really distinct mental qualities. Thus,

> ...a disposition (*habitus*) sometimes inclines the intellect and sometimes not. For when one is asleep, one does not experience oneself as being inclined to think. But as soon as one wakes up, one experiences oneself as inclined to think. Therefore, since there is such a passage from contradictory to contradictory, something exists in the intellect when it is awake that does not exist in it when it is asleep. This can only be an act, because the disposition is the same in someone asleep and awake.[14]

And he takes for granted that locomotion could play no role in accounting for this difference. Similarly, Ockham thinks that happiness is a real distinct mental quality; for

> ...the soul passes from contradictory to contradictory, because it is first not happy and then happy. This transition could not be brought about

11. *Expos. Praedicam.*, c.14, (OPh II, 271).
12. *Quodl.* I, q.18, (OTh IX, 93–94).
13. *Ibid.* VII, q.2, (OTh IX, 708); *Summa logicae* I, c.55, (OPh I, 181); *Rep.* III, q.7, (OTh VI, 197–98).
14. *Quodl.* I, q.18, (OTh IX, 94).

by locomotion or the passage of time or the loss of anything. Therefore, something is acquired. Not a relation, because this presupposes that something absolute is acquired. Therefore, something absolute is acquired.[15]

—an absolute thing, really distinct from the soul. And Ockham's psychological discussions assume that similar arguments would show that acts of thought (*intellectiones*) and volitions are things really distinct from the soul and other qualities (see Part Three, chapter 13 below).

Those who believe that no quality is a thing (*res*) really distinct from substances might challenge Ockham's reasoning on one or both of two grounds: (a) First, they might take issue with Ockham's claim that while "a thing can come to be shaped differently by the mere locomotion of some ot its parts," "it is not the case that a thing changes from whiteness to blackness or likewise from being hot to being cold by the mere locomotion of some of its parts"[16] and not the case that the soul first thinks one thought and then another, wills one thing and then another, is not virtuous or knowledgeable and then is virtuous or knowledgeable, is not happy and then happy through the mere locomotion of its parts. Such an objection might arise from the viewpoint of Democritean atomism, according to which all that exists is atoms, whose primary qualities are size and shape, and the void; and all changes are to be accounted for in terms of the locomotion of atoms. Consequently, the fact that composites appear to have first one color, flavor, or temperature and then another, is to be accounted for in terms of the locomotion of atoms.[17] Similarly, the soul is thought to be composed of very small atoms, and changes in it will be accounted for in terms of locomotion as well. Thus, an atomist would contend that once Ockham had replaced (A) with (A'), he should have used (A') and the razor to eliminate all really distinct qualities from his ontology.

15. *Ibid.*

16. *Ibid.* VII, q.2, (OTh IX, 708).

17. *The Pre-Socratic Philosophers*, eds. G. S. Kirk and J. E. Raven, (Cambridge, 1957), chap.17, 414–424.

Ockham would, of course, have known of Democritus' views from Aristotle's discussions of pre-Socratic natural philosophy But while Ockham does argue for his own positive position that substances are composites of matter and substantial form (see Part Four, chapter 15 below), he apparently regards Aristotle's critique of atomism as so conclusive as not to need any supplementation. So great was Aristotle's influence, that most late thirteenth and fourteenth century philosophers would have joined Ockham in rejecting atomism as a live philosophical option. John Buridan, for example, denounces the rejection of hylomorphism in favor of atomism as "obscure and dangerous."[18]

(b) On the other hand, someone might question why—having rejected (A)—Ockham feels compelled to replace it with (A'). Even if the change from being white to being black, from being hot to being cold, or from being ignorant to being knowledgeable could not be accounted for in terms of locomotion, why should a metaphysician not still say that these changes are a function of a substance existing first one way and then another and not of the successive inherence of really distinct qualities?

While Ockham does not explicitly address himself to such a query, I think he would give the following reply: To be responsible in proposing ontological reductions, it is not enough to say that the difference between a proposition *p*'s being true and its being false is not a difference in which things (*res*) exist but in how things exist. It is necessary to make some proposal regarding how things would change from existing one way to existing another way. Otherwise the proposal that things might be one way and then another is not fully intelligible. Ockham's opponents would, of course, reply that Socrates changes from being white to being black by qualitative change or alteration. But he would deny that this answer casts any light on the issue. For Ockham recognizes only three basic sorts of change: generation, corruption, and locomotion. We can understand how the production or destruction of a thing might change the truth-value

18. Maier, *op. cit.*, 336.

of a proposition. And we can literally see how things change size and shape in locomotion. But Ockham would contend that he has no conception of alteration as a distinct kind of change in its own right. And without one, anyone who wants to be responsible about ontological reduction should adopt (A') as Ockham himself does.

# 9

# Evaluation of Ockham's Ontological Program

Ockham's notorious ontological program is supposed to "turn things (*res*) into names." In the first and more famous half (examined in chapters 1–4 above), he argues that universals are nothing other than names—primarily concepts that naturally signify many particulars indifferently. Then, turning to the logically independent issue of how many fundamentally different kinds of things there are, he argues that—from the viewpoint of natural reason—nothing created is a thing (*res*) really distinct from substances and qualities. His own thesis is that Aristotle's ten categories classify not things, but names and represent ten fundamentally distinct ways of signifying particular substances and qualities. Now that considerations for and against distinct quantity-, relation-, and quality-things have been examined and weighed (in chapters 5–8 above), it is time to consider two general objections to Ockham's program and its resultant ontology: the first, to the effect that its difficulties are insuperable; the second that it carries no compensating advantages. I shall argue that Ockham need not accept either charge.

## 1. THE CHARGE OF ARBITRARINESS AND SUBJECTIVITY REVIVED

The first objection contends that by "turning accident-things into names" Ockham renders all claims that things are somehow quantified, related, active or passive, spatially or temporally located, etc. arbitrary and subjective. It relies on the following analogue of the argument examined in chapter 4 above:

1. No distinct things (*res*) correspond to quantity-concepts, relation-concepts, action- or passion-concepts, place- or time-concepts, etc.

2. Therefore, the extension of quantity-, relation-, action-, passion-, place-, and time-concepts is fixed partly by convention.

3. Convention or use depends in part on contingent human free choice.

4. Therefore, convention or use is arbitrary and subjective. (3)

5. Therefore, the extension of quantity-, relation-, action-, passion-, place-, and time-concepts is arbitrary and subjective. (2 and 4)

6. Therefore, it is an arbitrary and subjective matter whether or not things are somewhat quantified, related, active, passive, located in space and time, etc. (5)

The picture behind the above argument is this: The basic scientific language (*Begriffschrift*) for describing reality contains names only for the primitive entities of the ontology. If Ockham's ontology were correct, the true theory formulated in the basic language would make reference to substances and qualities only and exclude any statements about how they are quantified or related, whether they are active or passive, where or when they exist, etc. Rather quantity-, relation-, action- or passion-, place- or time-terms would be invented as alternative ways of talking about or signifying (*modi significandi*) the substance and qualities that could be more fundamentally described without them. Such "shorthand" terms would be in principle eliminable; and, dictated by changing human interests, they would be arbitrary and subjective and replaceable by others. Furthermore, the consequences of 6 reach back into the first half of Ockham's ontological program. For as we saw in

chapter 4, similarity relations determine which things are co-generic or co-specific, which concepts are generic or specific. If whether or how things are related is arbitrary and subjective, the matter of which things are co-generic or co-specific, which concepts genus- or species-concepts, will be arbitrary and subjective after all.

How would Ockham respond to these charges? (1.1) *Does Ockham Agree that Quantity-Terms, Relation-Terms, Etc. Are in Principle Eliminable?* The answer is that he should have. (a) Ockham would have admitted the notion of a basic scientific language ideally suited for describing the way things are, and would have identified it with the mental language.[1] But while he regards the mental language as semantically primary, in that spoken and written words acquire significance by being conventionally related to concepts, he finds spoken and written language epistemologically more accessible. And he sets out to describe the structure of the mental language by considering which features of spoken and written language should be mapped onto it. Ockham's principal criterion in this sorting out procedure is

(T1) A feature of or distinction among spoken or written signs has a counterpart in mental signs if and only if the feature or distinction is necessary for signifying or expressing the way things are.[2]

He recognizes that conventional languages contain many features that do not satisfy the right-hand side of (T1). Among them, some are introduced merely for the ornamentation of speech and make rhetorical eloquence, literary flourish, and poetry possible. Others, such as abbreviating expressions, facilitate conversation. But while such features improve conventional languages for some purposes, they can get in the way

1. As John Trentman notes in "Ockham on Mental," *Mind* N.S. LXXIX (1970): 588.

2. Ockham clearly regards the right-hand side of (T1) as both a necessary and a sufficient condition of the truth of the left-hand side in *Summa logicae* I, c.3, (OPh I, 11–14) and *Quodlibeta* V, q.8, (OTh IX, 509–510, 513).

when it comes to giving a full, clear, and accurate account of the ways things are. In proferring (T1), Ockham refuses to transfer such supposed liability to the mental language. Ockham regards the principal that

(T2) No distinction of concepts corresponds to a distinction among synonymous expressions in spoken and written language,

as an obvious corollary of (T1), since "whatever is signified and expressed by all" of the synoymous expressions "could be adequately expressed by one of them."[3] And in considering which of the grammatical accidents—e.g., case, number, being of one declension or conjugation rather than another—that characterize conventional signs are found among mental signs, he appeals to another corollary of (T1):

(T3) If *a* and *b* are spoken or written signs that vary with respect to a certain grammatical accident and yet *a* and *b* are synonyms, then that grammatical accident does not pertain to mental signs.

His thought is that if *a* and *b* remain synonymous, while differing with respect to some grammatical accident, then the difference with respect to that grammatical accident must not have any effect on their signification. And what has no effect on signification cannot be necessary for signifying the way things are.

In discussing which grammatical accidents transfer to the mental language. Ockham also makes use of the following criterion:

(T4) An element of a spoken or written proposition has a counterpart in the corresponding mental proposition, if and only if a variation of that element alone can pro-

duce a variation in the truth value of some proposition in which it occurs.[4]

Like (T1), (T4) seeks to project onto the mental language only those features of spoken or written language that pertain to its speculative use to make assertions that are either true or false. But Ockham was mistaken if he regarded (T1) and (T4) as equivalent. The mere fact that an element is such that a variation in it alone produces a variation in the truth-value of some proposition in which it occurs, does not insure that such an element is necessary for signifying things as they are, because spoken and written languages may well have numerous equivalent features that satisfied the right-hand side of (T4). (T4) as it stands is a more liberal criterion than (T1) is, but

(T5) An element of a spoken or written proposition has a counterpart in the corresponding mental proposition, if and only if (i) a variation in that element alone can produce a variation in the truth-value of the proposition in which it occurs, and (ii) it is not the case that this element is a member of a set of equivalent features some other member of which set is preserved in the mental language,

does seem equivalent to (T1).[5]

(T1)–(T4) are not free from difficulties, however. First, one might question whether (T2) and (T3) are genuine corollaries of

4. Invoked in *Summa logicae* I, c.3, (OPh I, 13) and *Quodl.* V, q.8, (OTh IX, 509–511).

5. If (T1)–(T4) are the criteria that Ockham employs, then Peter Geach is clearly wrong to suggest that Ockham's sole or even his principal criterion for distinguishing concepts is synonymy or lack thereof on the part of Latin words. Likewise, Geach is mistaken in contending that Ockham first maps the structure of Latin onto the mental language and then uses the structure of the mental language to *justify* the structure of Latin. Ockham has no interest in justifying or explaining the grammatical features of Latin as such, since for Ockham the primary language is the mental language. See Peter Geach, *Mental Acts*, (London, 1957), chap.23, 101–103. Trentman elaborates these criticisms in his article, "Ockham on Mental," 586–590.

(T1). Someone might believe, for example, that bachelors are not married males, but not believe that unmarried males are not unmarried males. Since merely changing 'bachelor' to 'unmarried male' can result in a proposition of different truth-value, it follows by (T4) that the distinction between 'bachelor' and 'unmarried male' must be reflected in the mental languages. And this conclusion will also be supported by (T1), since the distinction will be necessary for describing the ways things are—in particular, what people believe.[6]

Ockham would reply that in the above mentioned case, the belief loosely described as "the belief that bachelors are not unmarried males" is at bottom a belief about how spoken and written signs are used. Someone who did not know English very well might not realize that the noise pattern or inscription pattern 'bachelor' had exactly the same signification as 'unmarried male'; but no one would question whether the term 'unmarried male' signified the same thing as itself. On this construal, the objector's case shows only that there must be distinct concepts of the noise patterns or inscriptions 'bachelor' and 'unmarried male'—something that Ockham would freely admit.

Second, it may be alleged that Ockham's criteria in (T1)–(T4) are insufficient. (T2) and (T3) tell us that distinctions among features of equivalent expressive power will not be preserved in the mental language. But suppose that we have isolated a set of features each of which satisfies criterion (T4) and such that something equivalent in expressive power to each of the members of the set is necessary for signifying the way things are. Where these features have different grammatical structures, how are we to tell which structure (if any) the mental language has? None of (T1)–(T4) sheds any light on this point.

One supplementary criterion would be

(T6) The mental language has the same structure as that of the most fully articulated spoken or written language.

Other things being equal, (T6) would lead us to prefer 'walks

6. This objection was suggested to me by Tyler Burge.

about idly' to 'saunters' and '*est currens*' ('is a runner') to '*currit*' ('runs'). At least two arguments could be given in favor of (T6): (i) First, the components of the more fully articulated expression have roles to fill in other contexts. If their counterparts must be preserved to fill these other roles, there is no need—indeed, it is contrary to (T2)—to retain the less fully articulated expressions in addition. For example, 'saunter' is equivalent to 'walks about idly'; and 'walks' also occurs in 'walks heavily' or 'walks in a jaunty manner'. Thus, if we are retaining 'walks' anyway, we may as well drop 'saunter'. Analogous reasoning might lead us to drop 'walks' in favor of 'is a walker', etc. (ii) Another argument is that the more fully articulated form enables us to preserve more of the logical relations between the component parts of the complex expression. Thus, I can infer that 'walks about idly' entails '*x* walks' on the basis of the structure alone; but I cannot infer that '*x* saunters' entails '*x* walks' without knowing the meaning of the word 'saunters'. Retaining the more complex in preference to the less complex structure makes the logical relations among the parts explicit and therefore preserves more inferences solely on the basis of logical form than retaining the less fully articulated expression will.

Even the conjunction of (T1)–(T6) will be insufficient, however. For it will not enable us to choose between equally articulated alternative conventional languages. Compare, for example, the languages of *Principia Mathematica* and Polish notation. One might say that 'K*pg*' and '*p* & *q*' are inter-translatable and equally articulate; yet their grammatical structures are different. To which does the structure of the mental language correspond? Since it is conceivable that no spoken or written language makes the logical form of an expression fully explicit, it seems (T6) might lead us astray and should be replaced with

(T7) The mental language has a structure that makes the logical form of an expression fully explicit.

If we are able to discover the structure of the mental language

only by reference to conventional language, however, we will be able to test the explictness of a given formulation only by comparing it with others in the same or different spoken or written languages. Clearly, Ockham has undertaken no such investigations in comparative grammar. And this fact, together with his use of the more liberal criterion (T4), leads him to project more features of Latin onto the mental language than he should have.

What conclusions does Ockham draw from (T1)–(T4)? (i) Beginning with the most obvious case, he thinks it follows from (T1) that the distinction between nouns or name-like expressions (including adjectives) and verbs is preserved in the mental language. In this he follows Aristotle's contention that every statement or proposition that can be true or false contains both a noun and a verb, or else what is elliptical for such an expression.[7] It seems to Ockham that to describe the ways things are, one needs at least the copula. But Ockham explicitly notices that verbs other than the copula are equivalent in signification to the copula plus a participle—e.g., '*currens*' ('is a runner').[8] It follows by (T2) that the distinction between such verbs and the conjunction of the copula with their participles is not preserved in the mental language.[9] Although it is not warranted by any of the criteria Ockham actually enunciates, he concludes—contrary to (T6) and (T7)—that the mental language contains verbs and not participles.

Each of these contentions could be challenged, however. Why should we suppose that the mental language mirrors the structure of 'A man is a runner' or 'A man runs' rather than that of the artificial language of *Principia Mathematica*, where the copula and other verbs are dropped in favor of predicates and parentheses? (T6) or (T7) might provide a reason, but Ockham does not have either of them in mind when he puts verbs rather than participles in the mental language.

7. *Expos. Periherm.* I, c.4, sec.6, (OPh II, 395); cf. Prooemium, (OPh II, 374).

8. *Summa logicae* I, c.3, (OPh I, 11).

9. *Ibid.*; *Quodl.* V, q.8, (OTh IX, 512–13).

Again, Ockham's claim that mental propositions contain name-like expressions seems reasonable. But, focussing no doubt on propositions such as 'Socrates is running and he is engaging in disputation', which contain what Peter Geach has called "pronouns of idleness" that can be eliminated in favor of nouns, Ockham doubts whether the distinction between nouns and pronouns will be preserved among concepts—by (T2)—and seems to suggest that pronouns should be eliminated in favor of nouns. Even without studying the comparative grammar of spoken and written languages, it is clear that such a move would not be warranted by (T1) and (T2). For replacing pronouns with nouns does not preserve the sense of general propositions such as 'A man is running and he is engaging in disputation', as Ockham elsewhere recognizes.[10]

(ii) Again, Ockham contends that "since it is impossible to express everything through verbs and nouns alone,"[11] distinctions between them and adverbs, conjunctions, and prepositions will likewise be preserved in the mental language. Something corresponding to conjunctions such as 'and', 'or', 'if', and 'not' etc. is clearly needed. Whether the distinctions between verbs, adverbs, and prepositions would all appear in the mental language is unclear, however. After all, adverbial force is built into the meaning of some verbs—to saunter is to walk about *idly*—or adjectives—to be delicious is to be *very* tasty. If Ockham retains the verbs and adjectives, the abverbs might be superfluous. On the other hand (T6) and (T7) would prima facie tell in favor of keeping the adverbs. Again, if the mental language has verbs and adverbs, will it also have prepositions? Some prepositional force is already included in the meaning of some verbs—to approach something is to move *towards* it. And it seems as if adverbial prepositional phrases are often equivalent to single adverbs. But once again, retaining the prepositions might make the mental language more analytical.

(iii) If there are name-like expressions and at least one verb

10. See *Summa logicae* I, c.76, (OPh I, 234) and Geach, *Reference and Generality*, (Ithaca, NY, 1962), 124–25.

11. *Quodl.* V, q.8, (OTh IX, 509).

(the copula) in mental propositions, it is natural to ask which of the grammatical accidents that pertain to nouns and verbs in conventional languages, characterize those in the mental language as well? In Latin, nouns have cases. And applying (T4), Ockham concludes that since '*Sortes est homo*' ('Socrates is a man') and '*Sortes est hominis*' ('Socrates is a man's') differ only with respect to the case of the predicate noun, and since that difference alone can account for a difference in truth-value between the two statements, mental nouns must have case. Similarly, '*Homo est animal*' ('A man is an animal') is true when '*Homo est animalia*' ('A man is animals') is false, even though they differ only with respect to the number of the predicate term. Hence, by (T4), mental nouns are singular or plural.[12] In the *Summa logicae*, Ockham remains agnostic as to whether degree of comparision found among adjectives—e.g. between 'white', 'whiter', and 'whitest'—carries over to mental terms.[13] But in *Quodlibeta* V, q.8, he applies (T4) to conclude that it does.[14] On the other hand, there is a double basis for thinking that differences of gender and declension will not be preserved. First, the truth-values of '*Lapis est*' and '*Petra est*' (both 'A stone exists') cannot differ, given present conventions, even though '*lapis*' is third declension masculine and '*petra*' is first declension feminine. It follows by (T4) that such distinctions do not transfer to the mental language.[15] Applying the same two criteria will show that distinctions of conjugation are not found amoung mental verbs. Again, '*Tu legis*' ('you are reading') and '*Tu legisti*' ('You have read') differ only in the tense of their verbs but may have different truth-values as a result. Hence, by (T4), mental verbs should have tense; and similar arguments are constructed to infer that distinctions between number, person, mood, and active and passive voice are preserved in mental verbs.[16]

12. *Ibid.*, (OTh IX, 510); cf. *Summa logicae* I, c.3, (OPh I, 12).
13. I, c.3, (OPh I, 12).
14. (OTh IX, 510).
15. *Ibid.*; *Summa logicae* I, c.3, (OPh I, 12).
16. *Quodl.* V, q.8, (OTh IX, 511–12).

While distinction of case or tense may satisfy the right-hand side of (T4), it is not clear that either satisfies the right-hand side of (T1). If the cases of a noun indicate various relations of the thing principally signified by the noun to other things, why could not cases be eliminated in favor of prepositional phrases in the mental language? Again, if the mental language includes nouns and prepositions and adverbs, why are tenses needed as well? Granted that we would want to be able to express the difference between Socrates' reading today and his having read 2300 years ago, why could not that be done with tenseless verbs and prepositions and dates or with temporal adverbs such as 'now' and 'then'? Similarly, if the mental language contains numbers such as 'one', 'two', etc., it is not clear that number need be indicated in nouns and adverbs as well. Thus, Ockham's use of (T4) in addition to (T1) has led him to transfer more grammatical accidents from Latin to mental language than would be necessary to signify the way things are.

(b) Returning to the case at hand, we have seen (in chapters 5–8 above) how Ockham treats both abstract and concrete terms in the eight categories other than substance and quality as connotative and not absolute terms. Does he think that both connotative and absolute terms are to be found in the mental language?

Ockham explicitly considers this question in *Quodlibeta* V, q.9, and replies in effect that where corresponding concrete and abstract terms are synonymous, then the distinction between them is not preserved in the mental language,[17] but where they are non-synonymous the way 'just' and 'justice', 'white' and 'whiteness' are, both concrete and abstract terms are found in the mental language as well,[18] since truth is not preserved when one is substituted for the other.

Ockham's application of (T2) and (T4) seems over-hasty, however. For to decide whether both the concrete term 'white' and the abstract term 'whiteness' are included in the mental language, he needs to consider not only whether 'white' is

17. (OTh IX, 518).
18. (OTh IX, 517).

synonymous with 'whiteness', but whether or not either is synonymous with some other term or complex of terms found in the mental language: e.g., with 'something having whiteness' Ockham maintains that all connotative terms are susceptible of nominal definitions the way 'white' is. And a development of his logic along the lines suggested by (T6) and (T7) would conclude that all connotative terms are synonymous with complexes of primitive syncategorematics and absolute terms that name substances or qualities (see Part Two, chapter 10 below). If so, Ockham should have, by (T2), regarded all connotative terms and hence all terms in the categories other than substance and quality as in principle eliminable in favor of such complexes.

(1.2) *Would Ockham Accept Sub-Conclusions 2 and 5?* Steps 2 and 5 are ambiguous. They could mean merely that there is something arbitrary and subjective about a complex of concepts being grouped together as the nominal definition of a single term in spoken or written language and hence about that complex being singled out and labelled as a "quantity-concept" or "relation-concept." Alternatively, they could be claiming further that it is partly a matter of convention and hence arbitrary and subjective that the concepts, which are in fact thus labelled, signify what and as they do. If Ockham should have granted the first, would he concede the second as well?

To be entitled to reject 2, Ockham would have to deny that any simple concept included in the complex nominal definition of quantity-terms, relation-terms, etc. signifies partly by convention. We saw in chapter 4 how he maintains that the absolute names of substances and qualities signify naturally. And he has insisted in the *Summa logicae* and the *Quodlibeta* that various syncategorematics are necessary for signifying things as they are, or for making any statements at all, true or false, since every statement involves a noun and a verb. It might seem obvious, therefore, that Ockham intended his doctrine of natural signification to apply to syncategorematics as well.

Surprisingly, the texts show Ockham to have vacillated on this point. For, in at least two places, he implies that the syncategorematic force of concepts is merely conventional. (a) In

*Ordinatio* I, d.2, q.8, Ockham considers the question of how—on the theory that concepts are objectively existent objects of thought—we derive syncategorematic, connotative, and negative concepts?

> ...If precisely from things, it is not clear how they can be distinguished from other absolute "concepts" such as 'man' and 'animal'. But it is clear that there are such concepts, since there can be a mental proposition corresponding to every spoken proposition. Therefore, distinct mental propositions correspond to the propositions 'Every man is an animal' and 'Some man is an animal'. Therefore, something corresponds to the sign in one proposition that does not correspond to the sign in the other.[19]

Ockham replies that on the objective-existence theory,

> A concept is syncategorematic, or connotative, or negative only by convention, the way all such terms [i.e., 'syncategorematic', 'connotative', and 'negative'] are predicated of the spoken word and other signs by convention. And in general, grammatical and logical modes of themselves can pertain no more to these concepts than to those, but only by convention. Rather such concepts can be imposed or abstracted from spoken words. This is the way it happens in fact—whether always or commonly. For example, a grammatical mode pertains to the spoken word 'man' so that it is singular in number, nominative in case, masculine in gender, etc. And other grammatical modes pertain to the spoken word 'man's'. Likewise, it belongs to the spoken word 'man' to signify a thing determinately through itself, but not to the spoken word 'every'; rather the latter signifies together with another. Likewise, the spoken word 'not' and the spoken words *'per se'*, 'insofar as', 'if', and syncategorematics of this sort. Then from all of these spoken words signifying this way, the intellect abstracts common concepts predicable of them and imposes these concepts to signify the same as the extramental spoken words signify. And just as one could institute such concepts to signify this way, so one can institute those concepts abstracted from things to signify under the same grammatical modes that spoken words signify under...[20]

The view is that abstraction from things produces a universal in objective existence, which signifies particulars naturally by a

19. (OTh II, 282).
20. (OTh II, 285–86).

comparative similarity relation. But these objectively existent universals do not, by their very natures, signify according to one grammatical or logical mode rather than another. For example, the objectively existent universal man is not, of itself, either singular or plural, nominative or genitive, masculine or feminine. Rather such grammatical or logical modes first pertain to words by convention. From them, we can abstract the general concepts of singular number, nominative case, masculine gender, etc. and add these to the objectively existent universals abstracted from things. Combination with some such concepts yields the nominative, singular, masculine term '*homo*', while others give the genitive, singular, masculine term '*hominis*', etc. Other syncategorematics are similarly abstracted and may be combined with objectively existent universals to produce connotative or negative mental terms. And the occurrence of different conventionally significant syncategorematics in categorical propositions accounts for the difference between 'Every man is an animal' and 'Some man is an animal' in the mental language.

(b) According to the conventions of spoken and written language, the copula is a syncategorematic that functions to render the categorematic term that occurs (temporally or spatially) before it a subject and the one that occurs (temporally or spatially) after it a predicate. But what in the mental language performs the function of making one term of a proposition into the subject as opposed to the other: i.e., what in the mental language determines whether we have 'Every animal is white' rather than 'Every white is an animal'? In elaborating the mental-quality theory, Ockham proposes several solutions, one of which is the following:

> ...a proposition can be an act of understanding that is equivalent to a whole proposition composed of really distinct acts of understanding [as they would be] if they had the kind of order that spoken terms have. In that case, propositions will be distinct insofar as the corresponding propositions would be distinct if their terms or their parts were ordered differently...[21]

21. *Expos. Periherm.* I, Prooemium, sec.6, (OPh II, 356).

We are to imagine a case in which the conventions of spoken and written language about which term counts as subject and which as predicate applied to concepts: i.e., that the concepts are not thought of simultaneously but first one categorematic term, then the copula, then the other; or that—*per impossibile*—the concepts were arranged in spatial order. The subject and predicate are then identified by the conventions usual for spoken and written language. Ockham says that single mental acts differ by virtue of being equivalent to different complexes of this sort. This proposal makes the syncategorematic force that binds terms into the subject and predicate position of a proposition derivative from that of conventional language. And both passages imply that mental propositions signify in part by convention.

Apparently focussing on *Ordinatio* I, d.2, q.8, Ockham's critic and confrere Walter Chatton finds its conclusions without justification; he reports,

> ....Here they say that many of them—for example, grammatical concepts—signify by convention and presuppose voluntary conventions regarding spoken sounds and do not proceed from things.
>
> It seems to me that the opposite is true, however, for the concept of perseity is no more a product of voluntary conventions than the concept of man is. I argue for this as follows: Leaving aside all voluntary convention, the mental proposition 'Man is man *per se*' is just as true as the proposition 'Man is man' is. Therefore, since the truth of the second arises from the fact that the concepts signify the extramental thing only, so does the truth of the first.
>
> Nor does the analogy with grammatical concepts hold good. For the conditions of concepts depend on the will no more than the mooing of a cow does. Therefore, the proposition 'Man is man' is precisely *per se* because the nature of the extramental thing and the nature of the concepts that are natural signs of things, are of the sorts they are. For although it is voluntary that the definition exists in the mind, nevertheless, the fact that it *per se* signifies a thing if it is posited in the mind, is not voluntary.[22]

22. Gideon Gál, "Gualteri de Chatton et Guillelmi de Ockham Controversia de Natura Conceptus Universalis," *Franciscan Studies* N.S. XXVII (1967): 211.

Restricting the notion of a grammatical feature to spoken (and presumably written) words, Chatton says that grammatical features do depend on voluntary conventions that could change, but the conditions of concepts to which they correspond do not. Chatton's view is that the existence of any concept—whether absolute such as 'man', connotative such as 'white', negative such as 'immortal', or syncategorematic such as 'if' or '*per se*'—depends on the thinker's will to think, just as the existence of spoken sounds or inscriptions depends on his will to speak or write. But given that any of these concepts exists, what it signifies does not depend further on human choices, the way the signification of spoken sounds and inscription does. And this goes for concepts of syncategorematics and whatever syncategorematic force is exercised by the grammatical accidents of conventional language. For how man is related to being man or rational and to being white—man is man and rational *per se* and white *per accidens*—is just as much a feature of reality apart from any and every system of conventions, as man's being man, rational, and white are. Indeed, given that 'is', 'have', and 'inhere' are among the primitive syncategorematics, he might well have said that a man's being white or having whiteness and whiteness' inhering in him are convention-independent features of reality, just as much as human nature and whiteness themselves are. Hence, the former features are there to be naturally signified by concepts, just as much as the latter.

Although Ockham nowhere explicitly acknowledges Chatton's criticism, he doubtless knew of it and had taken it to heart by the time he wrote the *Summa logicae*. (c) For example, in the opening chapter of that work, Ockham relates that

> just as Boethius says in the *Peribermenias*, Book I, that expressions (*orationes*) are of three sorts—written, spoken, and conceived that exist in the intellect alone—so there are three sorts of terms—written, spoken, and conceived...[23]

and goes on to explain that

23. I, c.1, (OPh I, 7).

> a conceived term is a mental intention or *passio* that naturally *signifies or consignifies* something and that is apt to be part of a mental proposition and supposit for the thing...[24]

Since only syncategorematics, and by extension connotative and negative terms, consignify, he apparently means to assert that syncategorematic, connotative, and negative concepts signify and/or consignify naturally just as absolute concepts do. Continuing the same discussion, without any intervening restriction of the reader's attention to absolute categorematic terms, Ockham notes that

> There are some differences among these terms, however. One is that a concept or mental *passio* naturally signifies whatever it signifies, but a spoken or written term signifies only by convention. Another difference follows from this: that a spoken or written term can change its signification at the pleasure [of the language users], while a conceived term does not change its signification at the pleasure of anyone.[25]

(Should anyone have doubts about the scope of 'term' in *Summa logicae* I, c. 1, Ockham explicitly sets out what he means in the next chapter, where he distinguishes three ways in which 'term' can be taken—most broadly for whatever can be the copula, the subject, or the predicate of a proposition (including propositions as well as non-complexes); a narrower sense that excludes propositions but includes everything else covered by the first sense; and the narrowest which excludes complexes and syncategorematics but includes absolute, connotative, and negative categorematic terms. Ockham says that he used 'term' the second way in chapter 1.)[26]

(d) Ockham had already paved the way for these conclusions in *Expositio in librum Perihermenias Aristotelis*, Book I, Prooemium, section 6, where he allows the following as defensible on the mental-quality theory of concepts:

> ...to each spoken significant term—whether categorematic or syn-

24. *Ibid.*, (italics mine).
25. *Ibid.*, (OPh I, 8).
26. (OPh I, 9).

> categorematic—corresponds or can correspond an act of understanding that naturally signifies the same thing the same way as the conventional spoken expression. And just as the groans and cries of the sick and many such spoken sounds naturally signify the same as conventionally significant spoken sounds do, so the soul's acts of understanding, which the Philosopher here calls mental *passiones,* can naturally signify what conventionally significant spoken sounds signify. Not only that, but a single intention can *naturally* signify the same and the same way as a composite of *categorematic and syncategorematic* spoken words do...[27]

On this proposal, categorematic and syncategorematic concepts are alike naturally significant. And this conclusion is taken for granted in his discussion in *Quodlibeta* V, q.8. His considered opinion would thus be that 2 and 5 are false.

(1.3) *Would Ockham Accept the Inference from 5 to 6?* Chatton seems to take the inference from 5 to 6 for granted when he apparently equates 'Leaving aside all voluntary conventions, "Man is man" is true' with '"Man is man" is true solely by virtue of the extramental things signified'. It is the extramental fact that a man is a man that makes the proposition true, and this is a fact apart from any voluntary conventions. But if the concepts are signified by convention, he reasons, the truth of the mental proposition 'Man is man' would depend partly on such conventions. Likewise, for 'Man is *per se* man'.

Although Ockham does not address himself to this issue directly, I think it is a fundamental presupposition of his ontology that the inference from 5 to 6 does not hold. He agrees with his opponents that

> (T8) things are co-specific, co-generic, quantified, related, active or passive, have spatiotemporal location, etc. prior to and independently of their being signified, whether naturally or by convention.

In advancing the argument in steps 1–6, however, Ockham's adversaries assume that

27. (OPh II, 335–37), (italics mine).

(T9) it is only which things (*res*) exist that is thus prior to signification, whether natural or conventional.

But just as Ockham thinks differences in truth-values may reflect differences not merely in which things (*res*) are signified to exist, but also in how the same or different things exist (see chapters 5–8 above), so he would contend that, contrary to (T9),

(T10) it is not only which things (*res*) exist, but how they exist that [may be—in many cases—prior to their being signified, whether] naturally or by convention.

And (T10) applies to whether and how things are co-specific, co-generic, quantified, related, active or passive, spatiotemporally located, etc. By insisting on (T9), Ockham would charge, his opponents have once again begged the question against him.

## 2. DOES OCKHAM'S ONTOLOGICAL PROGRAM REPRESENT ANY GENUINE ONTOLOGICAL ECONOMY?

Ockham's aim in ontology is to admit nothing real other than particulars in the categories of substance and quality. For him, general terms do not signify universal things but particulars "confusedly," while abstract terms in the last eight categories do not signify distinct quantity-things, relation-things, action-things, etc., but substances and qualities in different ways. And we have seen (in chapter 8 above) how some who came after Ockham thought that the second half of his program could be extended even further to eliminate qualities as well. Other difficulties aside, we may ask whether the economies of Ockham's strategy are genuine or merely apparent.

(2.1) *Do Syncategorematics Name?* It will do little good to treat abstract nouns in categories other than substance and quality as connotatives, if syncategorematics themselves function as names. But we have already seen (in chapter 5 above)

how Ockham ridicules the crude semantic thesis that assigns a distinct signification to each distinct word, even to conjunctions such as 'and' or 'but', and we shall see (in chapter 10 below) how he makes the failure to name on their own a distinguishing mark between syncategorematic and categorematic terms.

Nevertheless, philosophers—medieval and modern—have doubted the success of his strategy for cutting off further ontological commitments, and this on several grounds.

(2.2) *Modes versus Things.* Buridan argued that as an economy measure this strategy—of replacing talk about distinct kinds of things with talk about substances and qualities existing otherwise (*aliter et aliter se habere*)—is ineffective, because it merely substitutes an ontology of modes for one of things. Focussing on the question of whether opinions are qualities really distinct from and inhering in the soul, he argues as follows:

> Again, 'to be otherwise and otherwise' (*aliter et aliter se habere*) signifies the same as 'to exist in one way and another' (*alio et alio modo se habere*). Therefore, if our intellect existing in one way and another is now one opinion and tomorrow will be a contrary opinion, the latter way/mode is not the former way/mode, from which it follows that different modes are posited. Therefore, if there are many modes that are distinct from one another, and the intellect is not and will not be different but is always the same, it is necessary for the intellect to be distinct from those modes and from each of them. And in that case, all of the difficulties that arose about the difference and identity of opinions come back with more force about modes. Therefore, it is better to stop immediately with the differences of opinions...[28]

So far as Buridan is concerned, one may continue to speak of modes, but one should acknowledge after all that they are accidents and hence things really distinct from the subject of inherence.

It is true that Olivi before and Mirecourt after Ockham did

28. Quoted by Maier, *Zwischen Philosophie und Mechanik*, (Rome, 1958), chap.6, 337.

speak about ways or modes of being (*modi se habendi*) in the nominative case[29] and thus invite Buridan's charge that in dodging an ontological commitment to things (*res*) they have accepted one to entities of another sort. And some later philosophers did wish to define a new ontological category distinct from that of Aristotelian substance and accidents. Fourteenth century philosophers had reasoned that since substance and accidents were distinct things, it was both logically possible for substance to exist without accidents and logically possible for accidents to exist without substance. By contrast, the new ontology held that the subject of a mode could exist without being thus modified, but a mode could not exist without the modified subject.[30]

Ockham would have denied any implicit ontological commitment to modes, however. He favors the oblique-case expressions '*aliquo modo*' and '*alio et alio modo*' and rarely uses the nominative case '*modus*' or '*modi*'. Ockham would agree with Buridan that '*aliter et aliter se habere*' and '*alio et alio modo se habere*' are synonymous. But whereas Buridan assimilates the former to the latter and treats them both as phrases including expressions that name modes, Ockham takes the adverbial form as canonical. The expression '*alio et alio modo*' is thus misleading as to its logical form, because it contains expressions that purport to name something. And had he regarded Olivi and/or Mirecourt as fellow-travellers, he might have explained his and their use of 'mode' in the nominative case as shorthand for adverbial circumlocutions.

(2.3) *Quantification over "Hows"*. It may be argued that replacing nouns with adverbs is not so decisive as Ockham imagines, however. For the criterion of ontological commitment is quantification: a theory has an ontological commitment to the entities that must be taken to be values of the variables if the theory is to be true; and a philosopher has an ontological commitment to those entities if he accepts the theory. If the

29. *Ibid.*, 328–338.

30. Cf. Paul of Venice, *Logica magna*, Part II, Tractatus de significato propositionis, first opinion, (Del Punta and Adams ed., 82–85).

philosophers who renounce distinct things in favor of the same things existing differently, proceed to quantify over these "hows," they will be as guilty of ontological proliferation as if they had used noun phrases in the nominative case.

What is more, it seems that Ockham and those who have extended his ontological program have done just that. (i) Buridan may have this in mind: to speak of something existing first one way and then another (*alio et alio modo*) in the oblique case, is still to count. (ii) Again, Ockham seems to quantify over modes explicitly. For example, in *Ordinatio* I, d.2, q.1, he asks "whether as much and every mode (*omnis modus*) of identity that obtains between the divine essence and the divine essence, obtains between the divine essence and the attributal perfections in reality."[31] He answers that "divine wisdom is the same as the divine essence in every way (*omnibus modis*) that the divine essense is the same as the divine essence."[32] Again, in *Ordinatio* I, d.26, q.2, Ockham sets out to show that "origin and relation are in no way (*nullo modo*) distinct in reality...Rather everything that is saved by assuming a distinction between generation and the relation can be saved by positing them to be every way identical (*omnimodam*)."[33] Further, he cites the rule that "whenever something is absolutely (*simpliciter*) the same and no way distinct, it is impossible to truly affirm and truly deny the same of it."[34] Again, Ockham holds that "the property that is generation and paternity is the same in every way (*omnibus modis*), nor is it in any way (*aliquo modo*) distinct in reality."[35] (iii) Later on, Paul of Venice draws inferences that seem to amount to existential generalization and universal instantiation, respectively. He argues that since $x$ and $y$ are distinct formally, in signification, and in origin, they are *somehow* distinct.[36] And he moves from the conjunction of

31. (OTh II, 3).
32. (OTh II, 17–18).
33. (OTh IV, 176).
34. (OTh IV, 178).
35. *Ord.* I, d.27, q.1, (OTh IV, 193).
36. *Op. cit.*, Part II, Tractatus de significato propositionis, c.7, 157–59.

'However *x*-or-*y* is, *x* is' and '*x* or *y* is this way' to '*x* is this way'.[37] How can Ockham and the others pretend metaphysical economies when they permit such quantification?

Medieval ontologists could give one of two answers to our Quinean query. First, they might deny, appearances to the contrary, that any genuine quantification is involved. Paul of Venice classifies the inference '*x* and *y* are distinct formally; therefore *x* and *y* are distinct somehow' as an inference from inferior to superior of the sort instanced by '*x* is a man; therefore *x* is an animal.' His assumption—that there is an order of subordination among adverbs analogous to that among nouns in the category of substance—has some plausibility. After all, if 'animal' is generic relative to 'man', 'horse', 'cow', and 'pig', why is not 'wickedly' generic relative to 'cruelly' and 'dishonestly' or 'intelligently' to 'insightfully' and 'cleverly'? Paul's thought must be that the subordination of 'formally', 'in signification', and 'in origin' to 'somehow' is of the same sort. Perhaps he would also construe the putative universal instantiation involved in '*x* is whatever way *y* is and *y* is this way; therefore *x* is this way' on analogy with '*x* is whatever sort of animal *y* is and *y* is a man; therefore *x* is a man'. But it looks as if 'man' is inferior to 'animal' or 'sort of animal' and not to 'whatever sort of animal' and hence that the last example includes quantification over sorts. Analogously, 'this way' would be inferior to 'way' and not to 'whatever way' and quantification over ways or modes would stand.

Alternatively, they might contend that it is not mere quantification that carries ontological commitment. "To be" is not "to be the value of a variable"; it is to be a property-bearer. But the quantification in '*x* is in every way the same as *y*', '*x* is in no way distinct from *y*', and '*x* is whatever way *y* is' does not involve attributing any properties to the ways or the "hows." Hence, this usage carries no ontological commitment to ways or "hows" after all.

It might be objected that in an artificial language, one may treat any element of the ordinary-language sentence as the sub-

37. *Ibid.*, c.5, 126–28.

ject and the rest as the predicate. Thus, one could hold that '*x* is whatever...*y* is' is an open sentence satisfied by ways, and hence that the whole sentence attributes a property to a way. If we are generous enough to allow logicians to stipulate any rules they like for analyzing sentences of ordinary language, nevertheless, we will be able to assess the ontological commitments of a given author only by reference to the rules he in fact lays down. Nothing could be clearer than that Ockham would not countenance the above analysis. For he refuses to allow adverbs to supposit, while insisting that expressions such as '*aliquo modo*' and '*nullo modo*' are equivalent to adverbs, where the adverbial form is clearly canonical. I conclude that *his* use of such phrases does not saddle him with an unwanted ontological commitment to modes or ways.

(2.4) *The Adequate Significatum of the Whole Proposition.* Granted that syncategorematics such as adverbs do not stand for entities on their own, one might still hold that they do so 'together with another'—in fact that the proposition as a whole stands for its own adequate significatum. But what is (*quid sit*) the adequate significatum of the whole proposition?[38]

Investigating this question, Ockham's youngest contemporary Gregory Rimini agreed with him that it is not merely *which* things exist, but *how* they exist that determines the truth-value of a proposition:

> ...The proposition 'A man is a donkey' is not false because a man is not or a donkey is not, but because a man is not a donkey. Nor is the proposition 'A man is white' true because a man exists or because whiteness exists, or even because a man and whiteness exist, but because a man is white...[39]

Strictly speaking, the adequate significatum of a proposition is not some things or things (*res*), but things being this way (*res sic esse*) or existing somehow (*aliqualiter esse*). Nevertheless,

38. This issue occupies the lion's share of discussion in Paul of Venice's *Tractatus de significato propositionis.*

39. *Super primum et secundum Sententiarum* I, d.1, q.1, a.1, (reprint of the Venice, 1522 edition, fol.1 Q).

Gregory allows that the terms 'something' (*aliquid*), 'thing' (*res*), or 'being' (*ens*) can be taken three ways: (i) in the broadest sense for whatever can be signified by a proposition or by a term, whether truly or falsely; (ii) less broadly, for whatever can be signified by a proposition or a term, but truly; and (iii) strictly, for an essence or existing thing that can be signified by a complex by itself.[40] Thus, the adequate significatum of a proposition may be something the first or second way, but not the third way. And a false proposition such as 'some dodos are pink' signifies some $thing_i$—that dodos are pink, or dodos being pink—even though there are no $things_{iii}$ for the subject term 'dodo' to signify. And since some $things_i$ and $things_{ii}$ are objects of scientific knowledge, they must be—by Aristotelian standards—necessary and eternal.

It is necessary to ask, however, what the relation of $things_i$ and $things_{ii}$ is to $things_{iii}$ (things, strictly speaking). Either necessary and eternal $things_i$ and $things_{ii}$ exist independently of any $things_{iii}$ or they do not. If they do, then some $things_i$ and $things_{ii}$ will be necessary and eternal, and hence states of affairs will be necessary and eternal independently of God, the only necessary and eternal $thing_{iii}$—which seems contrary to the Christian doctrine of creation. On the other hand, if necessary and eternal $things_i$ and $things_{ii}$ depend on God, what sort of dependence is it? As Paul of Venice contends at length, they are not simply identical with God, because different propositions are true of them and of Him.[41] And if some less straightforward reduction is envisaged, what is it?

Ockham occasionally alludes to what is denoted by a proposition as a whole, but he does not enter into the debate about the ontological status of its adequate significatum. In my judgment, if he had, he would have joined his secretary Adam Wodeham in rejecting the question of its quiddity as ill-formed and ridiculous. Adam admits that the proposition 'A man is an animal' signifies that a man is an animal, and turns to consider some objections:

40. *Ibid.*, fol.1 Q–fol.2 A.

41. *Op. cit.*, Part II, Tractatus de significato propositionis, c.3, 102–104.

> Suppose you say that for a man to be an animal is either something or nothing.
>
> I say that neither should be granted. Instead, it should be held that it is not something, but is for a man to be something, as was said. Thus, I may ask you, whether people is a man or a non-man? Neither should be granted; rather it is not a man but men.
>
> Suppose you say that if it is not nothing, then it is something. I may argue this way from the other part: if people is not a non-man, then it is a man. You deny both consequences.
>
> Suppose you say, what then is it (*quid igitur est*)? It must be replied that it is for a rational animal to be a sensitive animate substance. Nevertheless, a more proper response is that for a man to be an animal is not a what (*quid*), but for it to be something (*esse quid*). Therefore, the question is ill-formed the way it would be ungrammatical and perverse to ask, what is a man is an animal? For a man is an animal in reality, every proposition left aside. It should not be granted that a man is an animal is a substance or accident, neither what is something nor what is nothing, because none of these answers would be intelligible or anything to say...[42]

Understood that way, Wodeham's concession—later taken up by Peter of Ailly—that the adequate significatum of a proposition is *res sic esse* or *res sic non esse*, is fully compatible with Ockham's ontological program and its contention that only substances and qualities existing somehow or otherwise are real.

## 3. CONCLUSION

If Ockham was a nominalist-conceptualist, he does not make metaphysics arbitrary and subjective; nor does he replace ontologies that proliferate things with an equally luxuriant ontology of modes. Contrary to modern pragmatists and verificationists, he joins his "realist" opponents in affirming that certain things exist and are co-specific, co-generic, quantified, related, etc. prior to and independently of their being signified

42. Gideon Gâl, "Adam of Wodeham's Question on the 'Complexe Significabile' as the Immediate Object of Scientific Knowledge," *Franciscan Studies* N.S. XXXVII (1977): 66–102, at 89.

by anyone or anything. And he held that disputes about which ontology corresponds to things as they are could be settled both in principle and often in practice by appeal to indisputable first principles. He argues at great length and repeatedly that more generous ontologies cannot be true, because somewhere or other they run afoul of the Principle of Contradiction, etc.

On the whole, Ockham's own positive proposal—to treat all terms in categories other than substances and qualities as connotatives that signify particular substances and/or particular qualities existing one way or another—remains essentially programmatic. A full development of it would require him to state truth conditions for statements about how things are related, quantified, active, etc. using absolute terms that name only substances and qualities. Here Ockham provides us with only the barest hints: for example, he suggests that occurrences of the word 'point', which appears to name a quantity-thing, can be replaced with 'a line is not further extended'. But 'line', too, is a putative quantity-name and would have to be eliminated, and Ockham never pursues the exposition to its end. In spilling more ink refuting others than in elaborating his own view, Ockham may merit the title "critical philosopher" hurled at him by hostile opponents. On the other hand, how many nominalists have gone further, and by how much and how recently? In Ockham's view, the realists' program is demonstrably impossible; how much less an evil, if his own is merely incomplete.

# Part Two

## Logic

# 10

# The Properties of Terms

When presenting a formal system, contemporary logicians begin by listing the vocabulary and grammatical rules for constructing sentences in the language. Similarly, Ockham devotes Part I of the *Summa logicae*, his principal work on logic, to the properties of terms. In the broadest sense, a term is anything that is or can be part of a proposition.[1] Yet, he observes, "not all terms are of the same nature," inasmuch as they have different semantic functions. The first sixty-one chapters discuss how terms differ with respect to their signification; while the last sixteen treat the different but related property of supposition. Inevitably, some of the divisions among terms have been examined or alluded to already and others can be passed over for our purposes. In what follows, I shall first review the distinction between syncategorematic and categorematic, between absolute and connotative terms. Then I shall turn to one of the most discussed but highly perplexing parts of medieval logic: the theory of supposition.

## 1. SYNCATEGOREMATIC VERSUS CATEGOREMATIC TERMS

The distinction between syncategorematic and categorematic terms corresponds roughly to that in contemporary logic between logical and non-logical constants, respectively. Sometimes it is misleadingly put by saying that for Ockham and other medievals, categorematics signify or have signification, while syncategorematics do not. But while Ockham does hold

1. *Summa logicae* I, c. 1, (OPh I, 7).

that syncategorematics do not have signification, strictly speaking,[2] he does not intend thereby to suggest that syncategorematics are meaningless, but only that they have a different logical function from categorematic terms. Recall that for Ockham, strictly speaking, to signify is to bring to mind or make understood (see Part One, chapter 4 above). His contention is that categorematics—such as 'man', 'animal', and 'whiteness'—have "a finite and determinate signification" because 'man' brings to mind all men and no horses, 'animal' all animals but no trees, 'whiteness' all whitenesses and no substances or other qualities.[3] By contrast, "syncategorematic terms such as 'every', 'no', 'some', 'whole', 'except', 'only', 'insofar as', etc. lack a finite and determinate signification,"[4] "because they do not make any determinate thing understood except when they are put together with another term or terms."[5] Unlike 'man', 'animal', and 'whiteness', 'except' and 'insofar as' do not suffice by themselves to bring any determinate thing to mind. Rather the copula 'is' and negation 'not' function to join or divide terms to form propositions.[6] Other syncategorematics—viz., 'every', 'no', 'some', 'whole', 'only', 'except'— are quantifiers that operate on a term "to make it signify something or make it supposit in a determinate way for some thing or things."[7] Still others—viz., 'and', 'or', 'if', 'since', 'when', 'while'—correspond to sentential connectives and join propositions into "hypothetical" or molecular propositions.[8] Thus, syncategorematics function to form propositions, and which syncategorematics are present affects the truth-value of the resultant proposition. For example, propositions of the form 'Every *A* is *B*' and 'Some *A* is not *B*', 'No *A* is *B*' and 'Some *A* is *B*' are contradictory; and 'If giraffes are plants, the moon is

2. *Ibid.*, c.4, (OPh I, 15); *Expos. Periherm.* I, c.1, sec.1, (OPh II, 378–79).
3. *Summa logicae* I, c.4, (OPh I, 15).
4. *Ibid.*
5. *Expos. Periherm.* I, c.1, sec.1, (OPh II, 378–79).
6. *Quodl.* IV, q.35, (OTh IX, 470).
7. *Summa logicae* I, c.4, (OPh I, 15).
8. *Ibid.* II, c.1, (OPh I, 241–42); III–4, c.5, (OPh I, 768–770).

made of green cheese' and 'Giraffes are plants and the moon is made of green cheese' differ in truth-value, while differing only in sentential connectives. Because they have these genuine semantic functions, Ockham allows that syncategorematics have signification in a broad sense.[9]

## 2. ABSOLUTE VERSUS CONNOTATIVE TERMS

As we have already seen, a fundamental division among categorematics is that between absolute terms which do and connotative terms which do not signify whatever they signify the same way ("with equal primacy").[10] A realist about universals would say that absolute terms name universal kinds or natures the same way proper names name particulars. Roughly speaking, a proper name signifies only one thing per imposition.[11] Thus, although the name 'Socrates' is given to

9. *Expos. Peritherm.* I, c.1, sec.1, (OPh II, 378–79). Michael J. Loux ("The Ontology of William of Ockham," in *Ockham's Theory of Terms: Part I of the 'Summa logicae'*, (Notre Dame, 1974), 1–21) and Alfred J. Freddoso ("Ockham's Theory of Truth Conditions" in *Ockham's Theory of Propositions: Part II of the 'Summa logicae'*, (Notre Dame, 1980), 1–76) suggest that Ockham includes demonstrative pronouns among the categorematics. I know of no passage in which he says so explicitly. The closest he comes is his remark that "discrete supposition is the supposition a proper name or demonstrative pronoun has when taken as significant" (*Summa logicae* I, c.70, (OPh I, 209)). If a demonstrative pronoun is taken as significant, then it must have some signification and thus be categorematic. This reasoning is undercut by Ockham's example, however—'This man is a man'—whose subject includes the categorematic term 'man' as well (*ibid.*). In conventional language, demonstrative pronouns seem to be hybrids: on the one hand they take the place of categorematic terms in propositions—e.g., 'This is white'—but on the other hand they signify nothing except when taken together with a context. Often the mental language correlate will not be a pronoun but a proper name—an intuitive cognition of some particular or some other uniquely significant concept. Further, Ockham does not speak of a demonstrative pronoun taken by itself as suppositing but rather as "demonstrating" or "indicating" (*demonstrare*) something.

10. *Summa logicae* I, c.10, (OPh I, 35–36).

11. Strictly speaking, it does not, because even Socrates is a composite of many things—of his prime matter and of several substantial forms, although they unite to make something that is one *per se* (see Part Four, chapter 15

many men, each christening imposes it to signify or name a single man. The same way, the term 'man' is conventionally instituted to signify human nature; 'whiteness' the nature of whiteness, etc.[12] Ockham agrees that general terms such as 'man' and 'whiteness' signify things and that they are related to their significata the way proper names are related to their bearers. But he denies that there are any universal or common things (see Part One, chapter 2 above). Thus, he concludes that every such term signifies (or can signify) many particulars, but is related to each just as directly and primarily as a proper name is related to its bearer, and hence signifies each in exactly the same way as it signifies any other. As we have seen, Ockham recognizes abstract and concrete substance terms—such as 'man' and 'animal'—and abstract terms in certain species of quality—such as 'whiteness' and 'heat'—as absolute terms (see Part One, chapters 5–8 above).

Of course, any general term contrasts with a proper name in that it can signify many with equal primacy. But where absolute terms signify *whatever* they signify the same way, connotative terms signify some of their significata one way and others another way. Ockham often says that they signify some primarily and others *secondarily*, or that they *signify* some and *consignify* or connote others. Such connotative terms have a nominal definition (*definitio exprimens quid nominis*), which "explains what is signified by the word—viz., what we ought to understand by the word."[13] Ockham's favorite example is the

below). Likewise, nations and cities, which are aggregates of things, receive proper names.

12. See William of Sherwood, *Introduction to Logic*, chap.5, sec.1, (Kretzmann trans., 105–106); also Walter Burleigh, *De puritate artis logicae*, Tractatus longior, Prima pars, c.1 and 3, (Boehner ed., 1–3, 6–9).

13. *Summa logicae* III–3, c.23, (OPh I, 682); III–2, c.28, (OPh I, 556); III–3, c.26, (OPh I, 690). In *Summa logicae* III–2, c.33, Ockham alludes to a tradition that imposes the division between real and nominal definitions on Aristotle's distinction between material and formal definitions. Thus, the formal/nominal definition of 'saw' is 'something by which we can divide wood', while the material/real definition of 'saw' is 'iron of a sort that we can divide wood with'. Ockham thinks that this is a loose way of speaking about real definitions, however, and holds that strictly speaking connotative terms do

concrete quality term 'white' that has as its nominal definition 'something having whiteness' or 'something informed by whiteness'.[14] He contends that all concrete and some abstract quality terms, as well as all terms in the other eight accidental categories are connotative (See Part One, chapter 5–8 above). But fiction terms such as—according to medieval science—'vacuum', 'infinite', and 'goat-stag' also receive nominal definitions.[15] Further, other parts of speech may be connotative and accordingly receive a nominal definition.[16] Thus, a verb such as 'runs' breaks down into a primitive syncategorematic 'is' and a partially categorematic component 'runner', which can be further analyzed. Similarly, for many other verbs, participles, adverbs, etc.

Since such nominal definitions often involve putting something in the nominative case (*in recto*) and something in an inflected case (*in obliquo*), Ockham often says that connotatives signify something directly (which he identifies as the primary significatum) and something obliquely (which he identifies with the secondary significatum).[17] But this grammatical criterion is inadequate to distinguish primary from secondary significata in every case, as Ockham acknowledges implicitly, when he observes that "often (*frequenter*)"—not "always (*semper*)"—"it is necessary to put one term of the definition in the nominative and another in an oblique case."[18] In *Summa logicae* II, c.12, he says that even "negative, privative, and infinite terms are genuinely connotative because in their nominal definitions something should be put in the nominative case and something in an oblique case *or* in the nominative case with a preceding negation."[19] It seems that things signified negatively albeit by nominative case expressions in the nominal definition

not have any real definition (OPh I, 568–570).

14. *Ibid.* I, c.10, (OPh I, 36–37); III–2, c.22, (OPh I, 556).

15. *Ibid.* I, c.26, (OPh I, 88); III–2, c.33, (OPh I, 568); III–3, c.26, (OPh I, 690).

16. *Ibid.* I, c.26, (OPh I, 89).

17. E.g., *ibid.*, c.10, (OPh I, 36–37); II, c.11, (OPh I, 279–280).

18. *Ibid.* I, c.10, (OPh I, 36).

19. (OPh I, 283), (italics mine).

are to be counted among the secondary significata of the term defined. Ockham's combined remarks thus suggest that a *term t* signifies a thing *x primarily*, if and only if *x* is signified affirmatively and by a nominative case expression in *t*'s nominal definition, while a term *t* signifies *x secondarily*, if and only if either *x* is signified by an oblique case expression in *t*'s nominal definition or *x* is signified negatively. But might not other modifications of a nominative case expression render the term thereby defined connotative rather than absolute and the things thereby signified secondary rather than primary significata? Without extensive knowledge of the mental language correlates of connotative terms, Ockham is really in no position to recognize any grammatical criterion as adequate to the task of distinguishing primary from secondary significata, and neither are we.[20]

Strictly speaking, a nominal definition not only identifies the extension of a term—this it would do if it were truly predicable of and hence directly signified all and only those things about which the term was truly predicable – but also is *synonymous* with it, and hence subordinated to the same concept or concepts in the mental language. For one term or phrase to be synonymous with another, not only their primary but also their secondary significata must be the same; and they must signify their secondary significata the same way.[21] Ockham's examples

20. Paul Vincent Spade ("Ockham's Distinctions between Absolute and Connotative Terms," *Vivarium* XIII (1975): 55–76, at 72–73) offers the following formula for identifying the secondary significata of a term: "(16) A term *t* secondarily signifies a thing *x* if and only if either (a) *t* obliquely signifies *x* or else (b) *t* signifies *x* but not primarily." But this is not a criterion for distinguishing the primary from the secondary significata in the first place. Rather he assumes that we have identified all of the significata of a term, and have further determined which ones are the primary significata (by seeing which ones the term is truly predicable of); we derive the secondary significata by subtraction. Since for Ockham a term is predicated about something only if the term signifies it directly and affirmatively, Ockham's grammatical criterion includes whatever Spade's includes, but it may take in more besides.

21. *Summa logicae* I, c.6, (OPh I, 16): "Broadly speaking, synonymous terms are those that signify absolutely the same in every way, so that nothing

of nominal definitions, as well as his lumping together of syncategorematics, connotatives, and negatives in *Ordinatio* I, d.2, q.8, make attractive the thesis that on his view, a fully expanded nominal definition of connotatives would include only absolute terms and primitive syncategorematics not capable of further definition themselves. Insofar as he holds to his claim that there is no synonym in the mental language, Ockham will be committed to the view that connotative terms in conventional language are subordinated to arrays of primitive syncategorematics and absolute terms in the mental language.[22] And the conventional language explanation of what the terms signifies, that counts as a nominal definition of that term will be subordinate to the same array.

Corresponding to each absolute general term, there is a real definition that expresses the nature of the thing in its extension.[23] Strictly speaking, a real definition is "a succinct phrase that expresses the whole nature of the thing and does not mention anything extrinsic to the thing defined."[24] Such definitions are of two kinds: *Metaphysical* definitions include only terms in the nominative case—whether genus and differentia or terms that express or connote the essential parts of what is defined. For example, 'Man is a rational animal' and 'Man is sensible rational animate substance', where all the terms occur in the

is in any way signified by one that is not signified the same way by another." Later on, he considers a quibble about modes of signifying. Literally, a thing would be signified in altogether the same way only if the second term were of the same declension etc. as the first. Ockham rejects this broad interpretation of 'signify in the same way' (*ibid.*, c.72, (OPh I, 223–24)) and recognizes as relevant only differences in grammatical accidents that would be reflected in the mental language (see Part One, chapter 3 above).

22. Paul Spade makes this his central thesis in "Ockham's Distinctions between Absolute and Connotative Terms;" as he puts it, "the paper argues for the claim that connotation-theory, or at least that part of it presented here, requires no new primitive notions beyond those already required for the theory of absolute terms" (55). The relation between a connotative term and the thing connoted reduces to the relation between an absolute term in an oblique case and its significatum.

23. *Summa logicae* III–3, c.23, (OPh I, 682); III–2, c.28, (OPh I, 556).

24. *Ibid.* I, c.26, (OPh I, 85).

nominative case and signify particular men directly, but connote their essential parts. Thus, 'sensible' connotes the sensory soul, which is really distinct from the intellectual soul connoted by 'rational'. A *natural* definition is one that includes oblique case expressions, but only those that express the essential parts of a thing. For example, 'Man is a substance composed of body and soul'.[25] Following Aristotelian empiricism (see Part Three, chapter 13 below), Ockham thinks that the natures of things can be discovered only by experience. Only someone who has had an intuitive cognition of a lion will have a simple absolute concept proper to lions or a concept of the differentia needed to formulate the real definition. Those who, like Ockham, have never seen lions, can "know what the name 'lion' signifies"—i.e., can fix the extension of the term—because such persons can have the absolute concept 'animal' and other non-complex connotative and negative concepts none of which is proper to lions and use these to form a composite concept that is equivalent to, in the sense of being necessarily coextensive with, the concept 'lion'.[26] Similarly for the concepts of color and whiteness formed by someone blind from birth. Since (almost) no one sees angels, the latter is the only sort of concept we have to correlate with the conventional language term 'angel' "by addition" (*per additamentum*).[27] As a rule, the extension of such substance and quality terms can be fixed by one or more such phrases including connotative and negative terms. For example, the name 'angel' is equally well explained by 'an intellectual and incorruptible substance' and 'a substance that exists independently of matter' and 'a simple substance that does not form a compound with anything else',[28] each of which is necessarily coextensive with the term 'angel' and defines it by addition.

25. *Ibid.*

26. *Ibid.* III–2, c.29, (OPh I, 558–560).

27. *Ibid.*, c.32, (OPh I, 566): "A definition by addition not only mentions the essence of the thing, but also at the same time mentions something other than the thing, whether affirmatively or negatively. Therefore, such a definition is composed not only of terms predicable *per se* in the first way, but also of terms predicable *per se* in the second way, which are the passions of the term defined."

28. *Ibid.* I, c.10, (OPh I, 36).

Nevertheless, these phrases are not synonymous, because their parts signify different things and the same things differently. 'Matter' in 'a substance that exists independently of matter' signifies matter directly and affirmatively, whereas 'incorruptible' in 'an intellectual and incorruptible substance' signifies it obliquely and negatively. Ockham concludes that since what absolute terms signify can be explained equally well by many non-synonymous if necessarily co-extensional phrases, absolute terms do not have nominal definitions strictly speaking.[29]

Whether or not Ockham's criteria of primary and secondary signification are adequate, his predecessors and contemporaries thought that Ockham had the priorities exactly reversed. For example, in *De grammatico*, Anselm says that the *per se* signification of 'literate' is literacy, while 'literate' appellates, or signifies *per aliud*, one who is literate. Since the name 'literate' is imposed on Socrates through something else—viz., literacy—Anselm suggests that literacy is the primary and the one who is literate the secondary signification of 'literate', and not vice versa.[30] Burleigh takes a similar line in *De puritate artis logicae*.[31] An echo of this debate is found in *Summa logicae* I, c.33, where Ockham explains that "logicians take 'signify' many ways."[32] (i) The signification of a term is sometimes understood to include all and only those things about which it can be truly predicated. (a) One use restricts it to those about which it can be truly predicated in present tense propositions; and (b) a broader use expands it to include that about which it can be truly predicated in a singular categorical proposition, whether of the past, present, or future tense, whether assertoric or modal. Thus, the term 'man' would be said to signify all presently existing men the first way, all possible men the second way; the term 'white' all presently existing or possible white things.[33] But the term 'white' does not signify whiteness in

29. *Ibid.*, (OPh I, 35–36).

30. D. P. Henry dwells on this point at length in section 3 of *The Logic of St. Anselm*, (Oxford, 1967).

31. Tractatus primus, De proprietatibus terminorum, c.3, 7–10.

32. (OPh I, 95).

33. *Ibid.*

either way, because the proposition 'Whiteness is (was, will be, can be) white' is false. (ii) Alternatively, a term can be said to signify that from which the word is imposed, or what is signified the first way (in sense (i)) by the principal concept or word occurring in its nominal definition. This way 'white' signifies whiteness. For things are called white, because whiteness inheres in them, and whiteness is what is signified the first way by 'whiteness', the principal concept in the nominal definition of 'white'.[34] (iii) Finally, logicians sometimes take the term 'signify' comprehensively, so that a term is significant if "it is apt to be part of a proposition or to be a proposition or an expression indicating something, whether principally or secondarily, whether directly or obliquely, whether it makes something understood or connotes it, or is in any other way significant, whether it signifies it affirmatively or negatively."[35] This way, 'white' signifies both whitenesses and white things, and negative terms such as 'blind' signify vision. And syncategorematics combine with categorematics to signify various things in various ways. Where connotatives are concerned Ockham has fixed on what they signify in sense (i) as their primary significata, what they signify in sense (ii) their secondary significata.

Behind this apparently verbal dispute lurks the problem of universals. Most of us think that the meaning of general terms such as 'man' or 'white' does not change when particular men come into or go out of existence or when particular bodies change colors. Burleigh contends that Ockham's position has precisely this consequence, however, since it identifies a term's primary signification with its extension.

> ...If this were true, assuming that Socrates is first white and later black, the name 'white' would signify Socrates first and the name 'black' would signify Socrates later. Thus, assuming that whatever is white today became black tomorrow, then whatever 'white' signifies today 'black' would signify tomorrow. Thus, words would continuously lose their significata. No one could even move a finger without a word's

34. *Ibid.*; cf. II, c. 11, (OPh I, 280).
35. (OPh I, 96).

thereby losing its significatum. For when the finger is at rest, the word 'rest' signifies the finger and not when the finger has moved—which seems absurd.[36]

By contrast, human nature and the nature of whiteness remain the same while particulars change. That is why Burleigh identifies whiteness as the primary significatum of 'white'.

This move would not be much use to Ockham, whose rejection of really existent universal things makes whitenesses just as particular as white things are. Anticipating this objection, he makes the different reply that while the extension identified for 'white' by (ia) does change as the particulars do, that picked out by (ib) does not because it includes whatever can be white.[37]

## 3. SUPPOSITION

Whereas the terms have signification even when taken by themselves, supposition is a property of terms as they occur in propositions. Roughly speaking, it corresponds to the relation of satisfaction in modern logic, and Ockham concurs with other medieval logicians when he explains supposition as "being put in the place of something else."[38] Supposition Theory is a

36. *Op. cit.*, Tractatus primus, De proprietatibus terminorum, c.3, 9.

37. *Summa logicae* I, c.33, (OPh I, 95). This interchange between Burleigh and Ockham is highlighted by Calvin B. Normore in his dissertation, *The Logic of Time and Modality in the Later Middle Ages: the Contribution of William Ockham*, (University of Toronto, 1976), chap.1, 27–28. A hint that Ockham was once willing to say that 'white' primarily signified whiteness is found in *Reportatio* II, q.10, (OTh V, 227): "Notice that where accident terms are concerned, the concrete term can have a fourfold supposition—viz., personal, simple, material, and significative. For example, 'white' supposits the first way for its subject, the second way for its concept, the third way for a spoken word, and the fourth way *for its significatum*. But where substance terms are concerned, personal and significative supposition are the same, because their significatum is the same as their suppositum—e.g., 'man'." Here 'white' is allowed not only to *signify* whiteness as opposed to the subject of whiteness, but to supposit for it. This last idea drops out of Ockham's mature works entirely. I am indebted to Gedeon Gál for calling my attention to this passage.

38. *Summa logicae* I, c.63, (OPh I, 193). Peter of Spain says that sup-

theory about what things a term may stand for and how it stands for them in various sorts of propositions. Anticipated by the twelfth century work of Peter Abelard,[39] its full development came in the thirteenth and fourteenth centuries and constituted one of the genuine novelties of medieval logic.[40] Nevertheless, its origins and motivation remain obscure, and attempts in the secondary literature to assimilate it to one or another part(s) of contemporary logic have not yet provided a satisfactory solution to this puzzle.[41] Ockham's discussion breaks into two principal parts: first, a general division of supposition into personal, material, and simple supposition; and then the subdivisions of personal supposition itself. We shall consider each in turn and along the way examine the considerable controversy that has arisen over the second half.

(3.1) *The Threefold Division*. The threefold division of supposition into personal, material, and simple was developed to

position is "the taking of a substantival term for something. Moreover, supposition and signification differ, because signification is produced by imposing the spoken sound to signify the thing, but supposition is the taking of a term that already signifies a thing for something..." (*Summulae logicales*, Tractatus suppositionum, translated from Mullally's edition, 2–4). And Walter Burleigh says that "generally speaking, supposition is the taking of a term for something—viz., for a thing or a spoken sound or a concept" (*op. cit.*, Tractatus primus, De proprietatibus terminorum, c. 1, 2). But Peter of Spain restricts supposition to substantival nouns such as 'man' as opposed to adjectives such as 'white' or verbs, which are said to copulate (*copulare*) (*op. cit.*, (Mullally ed., 2–4)). And this distinction is likewise repeated by William of Sherwood, (*op. cit.*, chap.5, sec.1, 105); and exemplified by Burleigh, who says that strictly speaking only the subject term has supposition, while the predicate term has appellation (*op. cit.*, Tractatus primus, De proprietatibus terminorum, c.1, 1–2). But Burleigh was willing to use the term 'supposition' broadly to cover both; and after mentioning this distinction, Ockham announces his intention to follow the broader use (*Summa logicae* I, c.63, (OPh I, 193)).

39. William and Martha Kneale, *The Development of Logic*, (Oxford, 1962), Part IV, sec.2, 209–212. The most important of Abelard's works in this connection is his *Dialectica*, ed. L. M. De Rijk, (Assen, 1956).

40. See I. M. Bochenski, *A History of Formal Logic*, trans. and ed. Ivo Thomas, (Notre Dame, 1961), Part III, sec.I, "Semiotic Foundations," 153–177. See also Kneale, *op. cit.*, Part IV, sec.5, 246–273.

41. See sections 5–6 below.

deal with the fact that in medieval Latin, the true propositions '*Homo est albus*' ('Man is white'), '*Homo est nomen*' ('Man is a noun'), '*Homo est vox disyllabus*' ('Man is a spoken monosyllable'), '*Homo est dictio scripta*' ('Man is a written expression'), and '*Homo est species*' ('Man is a species') all have the same subject term, but yet are about very different sorts of things. The first but none of the others is about particular human beings; the second and third but none of the others are about the spoken sound; only the second and fourth about written inscriptions; and only the fifth about human nature. Medieval logicians described this fact by saying that the same term can have different sorts of supposition in different propositional contexts: *personal* supposition for particular men; *material* supposition for the sounds and inscriptions; and *simple* supposition for human nature.[42] Ockham draws this distinction for spoken words first. He makes it clear that

(R1) The division among personal, material, and simple supposition applies equally to spoken, written, and mental terms.[43]

For each of the three divisions, Ockham provides a characterization in terms of the sort of thing thereby stood for, and identification rules for determining when a given term can have that sort of supposition.

(3.1.1) *Material Supposition*. According to Ockham,

42. While most medieval logicians would accept this assignment of types of supposition for the cases at hand, not all would make this tripartite division the first one. William of Sherwood (*op. cit.*, chap.5, sec.2, 107) and Walter Burleigh (*op. cit.*, Tractatus primus, De proprietatibus terminorum, c.1, 2–3) first distinguish formal and material, and then under formal divide simple from personal. This division is a good one for realists like them, who believe that simple supposition is for a universal thing and personal supposition for the particulars that have or exemplify it, while material supposition is for signs. By contrast, since Ockham thinks that natures are concepts, he would have more incentive to assimilate simple and material supposition the way Buridan did. See section (3.1.3) below. Peter of Spain, a realist, (*Tractatus* IV, (De Rijk ed., 80–88)) omits to discuss material supposition entirely.

43. *Summa logicae* I, c.64, (OPh I, 196–97); III–4, c.4, (OPh I, 761–62).

(C1) A term has material supposition "when the term does not supposit for what it signifies but supposits for a spoken or written word."[44]

It is not—as the label might suggest—supposition for matter.[45] Although, strictly speaking, all he offers is a sufficient condition, his actual discussion shows that he regards it as a necessary condition as well. In a more detailed treatment, Walter Burleigh distinguishes five sorts of cases, four of which would have been admitted by Ockham: (i) when a spoken term supposits for itself or (as we would say) other spoken tokens of the same type, (ii) or a written term for itself or other written tokens of the same type—e.g., 'man' in the spoken proposition 'Man is a spoken word'; (iii) when a term supposits for some other spoken or written word that it does not signify—e.g., in Latin, when a spoken or written word in one case supposits for a different inflection of the same word, or when a clause in indirect discourse supposits for its direct discourse counterpart; and (iv) when a term taken with one supposition supposits for another of the same type taken with a different supposition—e.g., the first occurrence of 'man' in "man has personal supposition in 'Every man is an animal'."[46] Given (R1), Ockham would add a corresponding array of cases in which mental terms supposit for spoken and written terms of the same or different cases etc.[47] Spoken and written nonsense syllables such as 'bu' and 'ba' can have material supposition the first two ways. A fortiori, Ockham notes that not only nouns, but any part of speech can have material supposition, as for example in the following propositions: 'Well is an adverb', 'Reads is a verb', 'This is a pronoun', 'If is a conjunction', 'From is a preposition', and 'Ouch is an interjection'.[48]

When can a term or marks of any of these sorts have material

44. *Ibid.* I, c.64, (OPh I, 196); *Expos. Elench.* I, c.2, sec.9, (OPh III, 25).
45. *Summa logicae* I, c.64, (OPh I, 197).
46. *Op. cit.*, Tractatus primus, De proprietatibus terminorum, c.2, 4–5.
47. *Summa logicae* I, c.67, (OPh I, 206).
48. *Ibid.*

supposition? At first Ockham proposes

(R2) A term can have material supposition in a proposition in which it is matched with another extreme that signifies spoken or written words.[49]

Hence, the subject terms of the above mentioned propositions can have material supposition, because their predicate terms—'adverb', 'verb', 'pronoun', 'conjunction', 'preposition', and 'interjection'—signify conventional signs. Nevertheless, Ockham elsewhere acknowledges that not just every proposition containing such a term as subject or predicate is one in which the other extreme can have material supposition. Later on, distinguishing names of second imposition, which are "names of names" (narrowly speaking of conventional names only and broadly speaking of natural signs as well), from names of first imposition such as 'man' that do not signify names, Ockham substitutes

(R3) A term can have material supposition in a proposition if it is a term of first imposition that is not determined by a universal or particular sign and if it is matched with a term of second imposition,[50]

where Ockham treats what is stated as a sufficient condition as both necessary and sufficient. Thus, by (R3), the term 'noun' cannot have material supposition in the proposition 'Noun is a part of speech'. For although 'part of speech' is a term of second imposition, 'noun' is also a term of second imposition and is indeed one of its own significata. Hence it has personal supposition for itself in that proposition (see section (3.1.3) below). The stipulation in (R3) that only terms that are not names of names can have material supposition, seems too restrictive, however. For both subject and predicate in 'Verb is a term of second im-

49. *Ibid.*, c.64, (OPh I, 197).

50. *Ibid.* III–4, c.4, (OPh I, 761); *Expos. Elench.* I, c.2, sec.9, (OPh III, 26).

position' are terms of second imposition. Yet, 'verb' is not one of its own significata and cannot have personal supposition for itself. It seems that we should be able to use the sentence 'Verb is a term of second imposition', just as much as we can use 'Man is a term of first imposition' to say that the term 'man' is a term of first imposition. Ockham could make room for such cases by replacing (R3) with

(R4) A term can have material supposition in a proposition, if and only if it is a term of first imposition or a term of second imposition that does not signify itself and if it is not determined by a universal or particular sign and if it is matched with a term of second imposition.[51]

Perhaps it will be objected that (R4) is too permissive, because it will allow 'verbs' to have material supposition for itself in the proposition 'Verbs are tensed'. But so interpreted, that proposition is false, because the noun 'verbs' is not tensed. On the other hand, nothing has been said to suggest that a term cannot have material supposition in false propositions. For example, the term 'man' does in 'Man is a spoken disyllable'. So Ockham might consent to (R4) nonetheless.

Ockham's second restriction is more puzzling. He seems to imply that no term can have material supposition in propositions of the form 'Every ____ is ____' or 'Some ... is ...'.[52] Thus, (R3) and (R4) exclude 'noun' from having material sup-

51. In his article "Ockham's Rule of Supposition: Two Conflicts in His Theory," *Vivarium* XII (1974): 63–73, Paul Spade points out the incompatibility between (R2) and Ockham's declaration in (C5) below that when a term stands for one of its significata, the supposition is personal supposition (sec.III, 69–70). But Spade does not consider (R3). In his lecture "Supposition: The Theory of Reference," Council for Philosophical Studies, Summer Institute, 1980, 8, Spade sees the inconsistency resolved in another way: by stipulating that a term that signifies itself has personal supposition for itself only when it supposits for all of its significata and not itself alone. This will not do, however, because terms do not supposit for *all* of their significata in most tensed and modal propositions (see chapter 11 below).

52. *Summa logicae* II, c.3, (OPh I, 257); *Expos. Elench.* I, c.2, sec.9, (OPh III, 26).

position in 'Every noun is a part of speech' or 'Some noun is a part of speech' twice over. In one place, Ockham appears to renege on this restriction, suggesting that the subject term in a proposition such as 'Every man is composed of a general term and a universal sign' can have material supposition.[53] What he has in mind, however, is not the assertion that every token of the word type 'man' is thus composed, but the claim that 'every man' is a written expression. Ockham includes a parallel restriction in the identification rule for simple supposition (see section (3.1.2) below). Yet, we may wonder why, if we can use 'Man is a written expression' to assert of a written token that it is a written expression, we may not then use 'Every man is a written expression' to say the same about every such token; and why if we may use 'Man is a concept' to assert of a concept token that it is a concept, we may not use 'Every man is a concept' to say the same about every such token. Ockham never makes his motive explicit. Perhaps he thinks that since scarcely anyone would use quantified sentences this way, there is no need to accommodate such a possibility in the regimentation of Latin for scientific purposes. Alternatively, he may think that there is no point in using quantified sentences here, because of his habit of treating linguistic units as if they were types rather than tokens. For example, in considering whether God can know more than He knows, Ockham takes for granted that the number of propositions is always constant and that there is always an equal number of true and false ones—an assumption that will not hold up if the propositions in questions are tokens rather than types (See Part Five, chapter 26 below). If conventional or natural linguistic units are tokens then there is reason to specify whether a feature is had or lacked by some or all of them. Since there is only one type, however, such quantification loses its point in talk about types.

Most scholars[54] regard the division of material from personal

53. *Summa logicae* II, c.1, (OPh I, 248).

54. For example, Ernest A. Moody, *Truth and Consequence in Mediaeval Logic*, (Amsterdam, 1953), sec.II.6, 24, and Calvin Normore, *op. cit.*, chap.1 and 2, 38–44.

supposition as a medieval attempt to distinguish the ⌜use⌝ of a term from its ⌜mention⌝. Contemporary logicians have largely followed Frege's suggestion that we not use a term to stand for itself, but create a name of the term by enclosing it within quotation marks. This solution was not the first to occur to medieval logicians, however, because quotation marks were not included in the repertoire of medieval Latin punctuation marks. By Ockham's time, their probable ancestor 'li' was sometimes prefixed to a term or sentence to signal its mention. But Ockham uses it infrequently, and even then he does not think of it as creating a new term that has personal supposition for the first one, but rather as making explicit the fact that the same term is occurring in material supposition. It is worth noting that at least one modern logician, Alonzo Church, has abandoned Frege's quote-convention in favor of the medieval practice of using a term to name itself.[55]

(3.1.2) *Simple Supposition.* In the category of simple supposition, logic once again makes contact with the problem of universals (see Part One, chapters 2–4 above). For a philosopher's view of what the term 'man' stands for in the true proposition 'Man is a species', depends on what he thinks species are. Realists who contend that natures are mind-independent common or universal things (*res*), will say that simple supposition is for such things; and since they are what common terms such as 'man' or 'animal' primarily signify,

(C2) Simple supposition is the supposition of a term for its primary significatum.

Thus, having asserted that general terms such as 'man' signify universal things,[56] Peter of Spain declares that

> ...accidental simple supposition is the taking of common term for a

55. *Introduction to Mathematical Logic*, vol. I, (Princeton, 1956), Introduction, sec.8, 61–62.

56. *Summulae logicales*, Tractatus suppositionum, (Mullally ed., 2).

> universal thing signified by the term, as when one says 'Man is a species' and 'Animal is a genus'. There the term 'man' supposits for man-in-general and not for anything subordinate to it, and the term 'animal' supposits for animal-in-general and not for anything subordinate to it. The same should be said about any general term, as in 'Risible is a proprium', 'Rational is a differentia', 'White is an accident'...[57]

William of Sherwood takes the same line, defining 'signification' as 'the presentation of some form to the understanding' and distinguishing simple and personal supposition as follows:

> ...It is simple when a word supposits what it signifies for what it signifies, as in 'man is a species'. It is personal, however, when a word supposits what it signifies but for a thing that is subordinate to it, as in 'a man is running'; for running is in man because of some individual....[58]

According to Sherwood, 'man' has simple supposition in 'Man is a species'.[59] He elaborates further as follows:

> ...This is unlike the preceding supposition since the predicate is not ascribed to the abstract species itself but to the species insofar as it is in things. Thus such a predicate can be ascribed to any of the things belonging to the species insofar as it shares the nature of the species; and so one can say 'this man, insofar as he is a man, is the noblest of creatures'...[60]

By contrast, Burleigh says that in this case 'man' has "absolute simple supposition" which occurs "when a common term supposits for its significatum absolutely and not in relation to its supposita, whether those that it exists in or those that it is said of."[61] He explains, "the sense is that among corruptible creatures, man is the noblest of creatures."[62] Ockham objects that on Burleigh's view it should be false that universal human

57. *Ibid.*, (Mullally ed., 4–6).
58. *Op. cit.*, chap.5, sec.2, 107.
59. *Ibid.*, sec.7–7.1, 111.
60. *Ibid.*, sec.7.2, 111.
61. *Op. cit.*, Tractatus primus, De proprietatibus terminorum, c.3, 11.
62. *Ibid.*, 14.

nature is the noblest of creatures. For he will say that Socrates is a composite of universal human nature together with some individuating principles. If he agrees with others that these individuating principles have some perfection, Socrates' total perfection will be greater than that of universal human nature by itself. Hence, Socrates will be a nobler creature than it is.[63] Burleigh replies that it is not true "that Socrates is a nobler creature than man-in-general, because while Socrates includes the perfection of man, nevertheless, he includes it not necessarily but contingently; for when Socrates ceases to exist, Socrates is not a man."[64]

Facing the example 'Pepper is sold here and in Rome', Sherwood distinguishes a third type of simple supposition in which the term supposits "for the significatum connected with things insofar as it is related to anything generally, in an unfixed way, and is not identified with anything in a determinate way."[65] He explains,

> ...This supposition is unlike the first, since the species itself is not sold, and unlike the second, since 'pepper' is not used here for instance of pepper insofar as it is pepper. Instead 'pepper' here supposits for it [as] related in a general, unfixed way to supposition. A term having this third mode of simple supposition supposits for a species insofar as it does so through individuals belonging to the species, but undesignated. It is as if someone asked 'what animal is useful for plowing?' and one answered 'the ox'. In answering one does not intend to speak of a particular ox, but simply of ox. Likewise, whoever says 'pepper is sold here and in Rome' does not intend to speak of some pepper in particular, but simply of pepper.[66]

Both Burleigh and Ockham reject this treatment of 'Pepper is sold here and in Rome'. In similar discussions, they insist that 'pepper' has personal supposition. Burleigh writes,

> ...It must be said that the proposition 'Pepper is sold here and in Rome' is multiplex with respect to composition and division. Taken in the sense of composition it is false, because it is an indefinite proposition, each of whose corresponding singulars is false. Taken in the sense of

63. *Summa logicae* I, c.66, (OPh I, 200–201).
64. *Op. cit.*, Tractatus primus, De proprietatibus terminorum, c.3, 14.
65. *Op. cit.*, chap.5, sec.7, 111.
66. *Ibid.*, 112–13.

> division, it is true and denotes that pepper is sold here and pepper is sold in Rome. This way it is a conjunction of two indefinite propositions, one of which is true about one singular and the other for another. Nor does its truth require some one singular, but it is enough that one part is true about one and another about another.[67]

In a less clear sighted treatment, Peter of Spain finds still other instances of simple supposition. For example, in the proposition 'Every animal but man is irrational', "the term 'man' has simple supposition." He reasons that if it had personal supposition, then it would have to be true with respect to some particular man that every animal but this man is irrational. At least where there is more than one man, this is not true.[68] Then there is the case of

> common terms in the predicate position of an affirmative proposition such as 'Every man is an animal'. There the term 'animal' in the predicate position has simple supposition, because it supposits only for the nature of the genus.[69]

Once again, he reasons that 'animal' cannot have personal supposition there, because it is not true of any particular animal that every man is this animal. Sherwood,[70] Burleigh,[71] and Ockham[72] concur against Peter, however, insisting that 'animal' has merely confused supposition for many particular animals under disjunction (see section (4.2) below). Peter struggles with this suggestion but in the end abides by his original claim.[73]

Although Ockham agrees that 'man' has simple supposition for human nature in 'Man is a species', he rejects

(C2) Simple supposition is the supposition of a term for its primary significatum.

For he is as sure as he is of anything that human nature is a concept and not any mind-independent universal or common thing

67. *Op. cit.*, Tractatus primus, De proprietatibus terminorum, c.4, 21.
68. *Summulae logicales*, Tractatus suppositionum, (Mullally ed., 6).
69. *Ibid.*
70. *Op. cit.*, chap.5, sec.2, 108.
71. *Op. cit.*, Tractatus primus, De proprietatibus terminorum, c.4, 21.
72. *Summa logicae* I, c.70, (OPh I, 211).
73. *Summulae logicales*, Tractatus suppositionum, (Mullally ed., 10–16).

(see Part One, chapters 2–4 above). And he agrees with Burleigh that words such as 'man' primarily signify things, not the concept 'man'. Hence, if 'man' has a simple supposition for the concept 'man', it does not thereby supposit for its primary significata, which are—as we have seen in section 2 above—particular human beings. Rather Ockham explains that

(C3) A term has simple supposition when it "supposits for a mental intension and is not taken insofar as it is significant."[74]

And although (C3) explicitly states only a sufficient condition, Ockham treats it as necessary and sufficient. Simple supposition is not to be characterized as supposition for simples, although concepts are neither composed of matter and form nor divisible into spatial parts. If it were, then no term could ever have personal supposition for God.[75]

Ockham's identification rules for when a term can have simple supposition are analogous to those he gives for material supposition. At first, he proposes

(R5) A term can have simple supposition in a proposition in which it is matched with another extreme that signifies mental intensions.*

Once again, although Ockham states a sufficient condition, he treats it as a necessary condition as well. For he takes it for granted that 'man' can have simple supposition for the concept 'man' in 'Man is a species' because 'species' signifies concepts, but it cannot have simple supposition in 'Man is an animal' because 'animal' does not signify concepts. Still, Ockham regards (R5) as too permissive, because it allows 'species' to have simple supposition for the concept 'species' in the proposition 'Species are predicable' because the term 'predicable' does signify other concepts or signs. And later on he substitutes the more restrictive rule

74. *Summa logicae* I, c.66, (OPh I, 205–206); *Expos. Elench.* I, c.2, sec.9, (OPh III, 25).

75. *Summa logicae* I, c.64, (OPh I, 197).

* *Summa Logicae* I, c.65 (OPh I, 199).

(R6) A term can have simple supposition in a proposition in which it is matched with another extreme that signifies mental intensions,[76]

where he treats the sufficient condition as necessary as well. Ockham has defined 'first intension' as a sign that does not signify concepts or signs only, while 'second intension' was explained as a sign of first intensions.[77] Thus, the new rule still allows 'man' to have simple supposition for the concept 'man' in 'Man is a species', because 'man' is a first intension and 'species' is a second intension. Given these definitions of 'first intension' and 'second intension' however, (R6) is both too permissive and too restrictive. It is too permissive because it allows 'being' to have simple supposition for the concept 'being' in 'Being is a first intention'. Yet, by (C3) 'being' cannot have simple supposition there, because the concept 'being' is itself a being and hence one of the things signified by 'being'.[78] On the other hand, (R6) is too restrictive because it prevents 'species' from suppositing for the concept 'species' in the proposition 'Species is a second intension' on the double ground that 'species' is not a first intension and 'second intension' is not a second intension because it does not signify any first intensions. The latter half of the difficulty could be removed by widening the scope of 'second intension' to include names of concepts generally. But (R6) would still leave us unable to use the proposition 'Species is a concept' to assert of the concept 'species' that it is a concept, where we are able to use 'Man is a concept' to assert of the concept 'man' that it is a concept. Perhaps Ockham could handle such cases by replacing (R6) with

(R7) A term can have simple supposition in a proposition if and only if it is a term of first intension or a term of second intension that does not signify itself and it is not

76. *Ibid.* III–4, c.4, (OPh I, 760); *Expos. Elench.* I, c.2, sec.9, (OPh III, 26).

77. *Summa logicae* I, c.12, (OPh I, 43).

78. Spade gives an example of this sort—'Being is a participle'—and notes such a conflict of (C3) with (R5) ("Ockham's Rule of Supposition: Two Conflicts in His Theory," sec.III, 70).

> determined by a universal or particular sign and it is matched with a term of second intension.

As in the substitution of (R4) for (R3), (R7) allows terms to have material supposition on false readings of the proposition in question: e.g., 'Species is a first intension'. But Ockham may not find this objectionable.

Given his alternative characterization of simple supposition, Ockham does not further subdivide the category of simple supposition the way his realist opponents did. As for the proposition 'Man is the noblest of creatures', Ockham says it is false, whether the supposition is taken to be personal or simple. For contrary to Burleigh, not only is no particular man the noblest of creatures, "what is common or a species is never nobler than its particulars" either, since the species is merely a concept. What people usually mean when they use the spoken proposition 'Man is the noblest of creatures' is correctly expressed by 'Man is nobler than any creature that is not a man'.[79] Again, Ockham underscores Sherwood's putative mistake in claiming that 'pepper' has simple supposition in 'Pepper is sold here and in Rome', noting that "taken as having simple supposition it is false, because no one wants to buy pepper-in-general, whether it exists as a mind-independent reality or in the mind, but anyone intends to buy a particular thing that he lacks."[80] Even if simple supposition is for concepts, however, it seems that Ockham might have had a use for Burleigh's distinction between generic and specific simple supposition to allow 'substance' to stand for the concept 'substance' and not the concepts 'man', 'animal', etc. on the true reading of 'Substance is a genus of the highest generality', and yet to stand for those ordered under it on a true reading of 'Substance is second substance' and 'Substance is properly defined'.

Ockham's characterization of simple supposition, not as the supposition of a common term for the corresponding nature, but as supposition for a mental intension, opens up the category to a range of cases excluded by his opponents' classification. For while he does not explicitly say so, it seems that Ockham

79. *Summa logicae* I, c.66, (OPh I, 200–201).
80. *Ibid.*, (OPh I, 205).

must allow 'man' to have simple supposition for the concept 'man' in 'Man is a concept' and 'Man is a mental quality' as well as in 'Man is a species', given that the term 'man' does not signify the concept 'man' but particular men. Further, Ockham allows that "any significant non-complex that can have material supposition can have simple supposition."[81] Thus, since 'man' can have material supposition in 'Man is a noun' for spoken and written words, it can have simple supposition in 'Man is a noun' for mental nouns. And just as the nominative case 'man' in "Man has personal supposition in 'A man is a donkey'" has material supposition for a spoken or written counterpart in the genitive case, so also may it have simple supposition for its mental counterpart of a different case. Likewise, since the that-clause in 'That a man is an animal, is true' does not signify propositions, but signifies that a man is an animal (see Part One, chapter 3 above), it may be taken to have simple supposition in that proposition for the corresponding mental proposition.[82]

We can now begin to see how Ockham's alternative characterization of simple supposition in (C3) undermines the rationale for distinguishing simple from material supposition in the first place. For simple supposition is supposition for concepts and concepts are natural signs. But much material supposition is supposition for signs (see section (3.1.1) above). Ockham himself must have been aware of this overlap when he observed that terms such as 'universal', 'common', 'predicate', 'subject', and 'noun' signify both conventional and natural signs.[83] Nevertheless, he never considers dropping simple supposition as a separate division.

It was left to John Buridan, Ockham's younger contemporary, to draw the consequence that the division of simple supposition was a vestigial organ in a nominalist's logic. Having announced that "supposition is divided into material and personal supposition," he observes that

> Some, who believed that universal natures were extramental things distinct from particulars, laid down a third division, which they call

81. *Ibid.*, c.68, (OPh I, 207).
82. *Ibid.*, (OPh I, 208).
83. *Ibid.* III–4, c.4, (OPh I, 762).

> simple supposition. Therefore, they said that a common term supposits personally when it supposits for the particulars and simply when it supposits for the universal nature and materially when it supposits for itself. But I believe that Aristotle did a good job of destroying that opinion in Book VII of the *Metaphysics*. Therefore, such simple supposition should be done away with, at least according to this explanation.

Nominalists like Ockham, who think that universal natures are concepts, sometimes

> call it simple supposition when a spoken word supposits for the concept with which it is conventionally associated and material when it supposits for itself and those equiform with it...

And Buridan thinks that "while this can be permitted," the division is superfluous: he declares, "I do not care about this sort, because I call both material supposition."[84]

(3.1.3) *Personal Supposition*. As noted above, everyone agreed that 'man' in the proposition 'Every man is an animal' has personal supposition for particular men, which would suggest the following, noncontroversial characterization of personal supposition:

(C4) A term *'T'* has personal supposition for a thing $x$ in a proposition $p$, if and only if *'T'* occurs in $p$ and $x$ is one of the particulars that falls under *'T'*.

Thus, Peter of Spain explains, "personal supposition is the taking of a common term for those that fall under it; for example, when one says 'A man runs', the term 'man' supposits for those that fall under it."[85] And Burleigh could assent to this characterization.[86] Nevertheless, Ockham foregoes such consensus. Against these realist opponents, who identified the primary significatum of absolute terms such as 'man' with universal or common natures, he has insisted that 'man' primarily signifies particular men and signifies whatever it

84. Translated from Tractatus de suppositionibus in *Summulae de dialectica* in Maria Elena Reina, "Giovanni Buridano, Tractatus de suppositionibus," *Rivista critica di storia della filosofia* XII (1957): 201–202.

85. *Summulae logicales*, Tractatus suppositionum, (Mullally ed., 8).

86. *Op. cit.*, Tractatus primus, De proprietatibus terminorum, c.1, 3.

signifies primarily. And he offers the following polemical characterization:

(C5) Generally speaking, a term has personal supposition when it supposits for its own significata,[87]

where once again what is stated as a sufficient condition is treated as both necessary and sufficient. Since only categorematic terms have significata, strictly speaking it follows that only categormatic terms can have personal supposition.[88] And since not all categorematic terms signify persons, personal supposition should not be characterized as supposition for persons.[89] Rather 'donkey' has personal supposition for donkeys and 'whiteness' for whitenesses.

As for when a term can have personal supposition, Ockham maintains that "a term can always have personal supposition, no matter what proposition it is put in."[90] Later on, Ockham notes that strictly speaking only the whole subject or whole predicate and not part of it can supposit. The suggested identification rule is thus

(R8) A term *'T'* can have personal supposition in a proposition *p*, if and only if *'T'* is a categorematic term that occurs in *p* either as the whole subject or the whole predicate.

Thus, "in the proposition 'A white man is an animal', neither 'man' nor 'white' supposits, but the whole extreme supposits."[91] Sometimes he allows that there is a broader sense "in which part of an extreme can supposit"—e.g., 'horse' can supposit in this extended sense in 'I promise you a horse'; but many

87. *Summa logicae* I, c.64, (OPh I, 195); *Expos. Elench.* I, c.2, sec.9, (OPh III, 24).

88. *Summa logicae* I, c.69, (OPh I, 208).

89. *Ibid.*, c.64, (OPh I, 197).

90. *Ibid.*

91. *Ibid.*, c.69, (OPh I, 208).

of his rules hold good only when applied to whole extremes.[92]

If (C5) is motivated by Ockham's debate with realists over the signification of absolute natural kind terms that signify whatever they signify the same way, it is too vague to handle connotatives such as 'white' that signify some things one way and others another. For which of its significata does a connotative term stand when it has personal supposition? Ockham seems to clarify this point when he explains that among logicians, 'signify' is used one way so that 'a sign signifies something when it supposits or is apt to supposit for that thing—evidently, in such a way that the name is predicated of a pronoun indicating that thing by means of the verb 'is'."[93] And it is used more broadly, when the predication can occur either through the verb 'is', 'was', 'will be', or 'can be'.[94] This suggests the following equivalences:

(E1) A term *'T'* signifies *x*, if and only if *'T'* is apt to supposit for *x*, if and only if 'This is *T*' (where 'this' indicates *x*) is (was, will be, can be) true.

This explanation is repeated in *Summa logicae* I, c.63:

> Moreover, 'supposition' means, as it were, being put in place of something else. Thus, when a term stands for something else in a proposition, in such a way that we use that term in place of something of which, or of a pronoun indicating which the term (or the nominative case of that term, if it is in an oblique case) is truly predicated, the term supposits for that thing. This is true at least where the term is taken to supposit significantly.[95]

92. *Ibid.*, c.72, (OPh I, 219–220); see section 4 below. Spade notes that nothing in Ockham's definition of supposition—in terms of being put in place of a thing in a proposition—rules out the supposition by parts of extremes, and even speculates that "the theory of descent to singulars is included in supposition-theory *only* because the parts of extremes have supposition" ("Priority of Analysis and the Predicates of 'O'-Form Sentences," *Franciscan Studies* N.S. XXXVI (1976): 263–270, at 267, note 14)—an assumption needed to give an account of the truth conditions of such sentences as this.

93. *Summa logicae* I, c.33, (OPh I, 95).

94. *Ibid.*; see section 2 above.

95. (OPh I, 193).

Ockham sets out to say in general when a term supposits for something, but he qualifies his remark to cover only those cases in which the term is taken as significant—i.e., cases of personal supposition. Thus, he claims

(E2) A term '*T*' has personal supposition for *x* in *p*, if and only if '*T*' occurs in *p* and 'This is *T*' (where 'this' indicates *x*) is (was, will be, can be) true.

(E2) seems to say that a term has personal supposition for the things about which it can be truly predicated; and we have seen how Ockham identifies the primary significata of a term with those of which it can be truly predicated. If it held good, (E2) would help us decide that 'white' has personal supposition for white things and not for whitenesses. For everyone agrees that 'white' cannot be truly predicated of whitenesses, no matter what suppositon 'white' is taken to have.

Nevertheless, (E2) does not seem true as it stands, since the right-hand side could be true when the left-hand side was false. In assessing the truth-value of 'This is *T*' (where 'this' indicates *x*), we have to ask what sort of supposition '*T*' has in that proposition—material, simple, or personal? It might seem obvious that it must have personal supposition, for it is matched there with the demonstrative pronoun 'this', which is neither a term of second imposition nor a term of second intension, and by (R4) and (R7) only such can have material and simple supposition, respectively. Doubtless Ockham was forgetting singular sentences with demonstrative pronouns as subjects when he formulated (R3) and (R6). The natural extension of the rules would allow a term to have material or simple supposition when it is matched with a demonstrative pronoun that indicates a conventional or natural sign, respectively. Assuming such an amendment, it could be true that 'man' occurs in 'Every man is an animal' and true that 'This is man' (where 'this' indicates the term 'man' and the term 'man' in the proposition has material supposition), and yet be false that 'man' has personal supposition for the term 'man' in 'Every man is an animal'. To avoid this difficulty, (E2) would have to be replaced with

(E3) A term '*T*' has personal supposition for *x* in *p*, if and only if '*T*' occurs in *p* and 'This is *T*' (where 'this' indicates *x*, and where '*T*' has personal supposition) is (was, will be, can be) true.

(E3) says that a term supposits personally for those things that it can be truly predicated of when it is taken to have personal supposition. And it will do as well as (E2) would for informing us which of its significata the term 'white' has personal suppositon for. It is worth noting, however, that the true biconditional in (E3) cannot serve as a non-circular definition of personal supposition the way some scholars have taken the biconditional in (E2) to do.[96]

(3.1.4) *Rules and Biases*. Ockham holds that the division between personal, material, and simple supposition is exhaustive. By (R4) and (R7), a term can have material or simple supposition only in certain propositional contexts—those in which it is matched with a term that signifies signs. It follows that

(R9) A term must have personal supposition if it is matched with a term that does not signify signs.

According to Ockham, however,

(R8) A term can have personal supposition in any proposition in which it occurs.

Hence, there are no propositional contexts in which a term

96. Spade understands Ockham to be offering a definition of personal supposition in the above quoted passage from *Summa logicae* I, c.63 ("Priority of Analysis and the Predicates of 'O'-Form Sentences"; cf. 266, note 9.) For a fuller discussion of why (E2) cannot constitute a successful definition of supposition in general or of any particular type of supposition, see my article "What Does Ockham Mean by 'Supposition'?" *Notre Dame Journal of Formal Logic* XVII (1976): 375–391. For different reflections on how this formula should be treated, see Alfred J. Freddoso, "Ockham's Theory of Truth Conditions," in *Ockham's Theory of Propositions*, 1–76. Sherwood defines 'appellation' as "the present correct application of a term, i.e., the property with respect to which what the term signifies can be [only] said of something through the use of the verb 'is'" (*op. cit.*, chap.5, sec.1, 106).

must be taken to have material or simple supposition. Rather in contexts in which it can, the resultant proposition is equivocal the third way, and different readings of it must be distinguished according to the following rules:

(R10) In those contexts in which a term can have material supposition, it is necessary to distinguish one reading on which it has personal supposition, another material supposition, and another simple supposition.

(R11) In those contexts in which a term can have simple supposition, it is necessary to distinguish one reading on which it has personal supposition and another on which it has simple supposition.

and

(R12) In those contexts in which a term can have material or simple supposition, it is necessary to distinguish one reading on which it has personal supposition, another material supposition, and another simple supposition.[97]

Further, since (R4), (R7), and (R9) stipulate that the supposition of one term is determined by the signification of the other, it follows that according to these rules at least one extreme of a categorical proposition must be taken as significant and hence taken to have personal supposition.[98]

This bias in favor of personal supposition was traditional. Sherwood defends it on the ground that

> Words considered in themselves always present what they signify; and if they present their utterance they do so not in themselves but as a result of adjunction to a predicate. For one predicate is disposed to have reference to only the utterance or the word but another to what is signified...[99]

97. *Summa logicae* III-4, c.4, (OPh I, 760-62); *Expos. Elench.* I, c.2, sec.9, (OPh III, 26).

98. John Swiniarski makes this last observation in "A New Presentation of Ockham's Theory of Supposition with an Evaluation of Some Contemporary Criticisms," *Franciscan Studies* N.S. XXX (1970): 181-217, especially 189.

99. *Op. cit.*, chap.5, sec.4, 109-110.

And Burleigh also endorses (R9)–(R11).[100] To a logician engaged in the regimentation of Latin for scientific purposes, however, this bias in favor of personal supposition does not have much to recommend it. Why should we be allowed, by (R10), to use 'Man is a spoken monosyllable' to say that a particular man is a spoken monosyllable and not, by (R9), to use 'Man is an animal' to assert that the spoken word 'man' is an animal? Would Ockham not have done better to exhibit a bias in favor of the sensible by stipulating, with some contemporaries and successors[101]

(R13) In those contexts in which a term can have material (simple) supposition, it does have material (simple) supposition?

Further, why must we regard propositions such as 'Man is a noun' whose predicates signify both mental and conventional signs, as equivocal? Is it not a good policy to keep equivocation to a minimum, and would it be better to stipulate that

(R14) In those contexts in which a term can have either simple or material supposition, it supposits both for the supposita it has in simple and those it has in material supposition?

(3.1.5) *Equivocation in the Mental Language.* As we have seen, Ockham endorses

(R1) The division among personal, material, and simple supposition applies equally to spoken, written, and mental terms,

which implies that different tokens of the same sign type—whether spoken, written, or mental—stand in propositions for quite different things. His further commitment to

100. *Op. cit.*, Tractatus primus, De proprietatibus terminorum, c.3, 9–10.

101. Spade cites Richard Lavenham and Paul of Pergula ("Ockham's Rule of Supposition: Two Conflicts in His Theory," *Vivarium* XII (1974), sec.IV, 70–73).

(R10)–(R12) implies that the same token of a given sign type—whether spoken, written, or mental—may be equivocal the third way as between standing for its significata, for itself, or for the corresponding conventional or mental sign.

These consequences seem wrongheaded, however, because they are incompatible with Ockham's original conception of mental language as the ideal language. Whereas conventional language contains synonymous and equivocal expressions due to the ornamentation of speech and variations in usage, mental language was to include neither. Ockham even defines an equivocal sign as "one that signifies many and is not subordinate to one concept but is a single sign subordinate to many concepts or mental intentions"[102] and remarks that

> only a spoken word or some other conventional sign is equivocal or univocal, and therefore a mental intension is neither equivocal nor univocal, properly speaking.[103]

Indeed if the division between personal and material supposition is a medieval attempt to distinguish use from mention, it is an accident of medieval punctuation that the same conventional sign stands for itself and its significata. But the concept of the spoken word 'man' is distinct from the concept of human nature and from the concepts of Socrates, Plato, etc. Thus, the different readings of the conventional propositions distinguished by (R10) and (R12) must correspond to different mental propositions. Likewise, different mental propositions must correspond to the conventional language proposition 'Man is a species' read to assert that a particular man is a species, and read to assert that the abstract general concept 'man' is a species, respectively. There is thus no need for the third sort of equivocation among conventional signs to be replicated in the mental language. Should we not regard Ockham's endorsement of (R1) as a careless blunder and offer him

102. *Summa logicae* I, c.13, (OPh I, 45).
103. *Ibid.*, (OPh I, 44).

(R15) The division among personal, material, and simple supposition applies equally to spoken and written terms, but not to mental terms,

by way of reconstruction? Yet, how can his adherence to (R1) be simply careless, when he repeated it in such widely spaced passages of the *Summa logicae*?

Is there a method behind Ockham's apparent madness in proposing (R1)? There would be if he thought the following: just as every mental term naturally presents all of its significata, and every conventional sign conventionally presents all of its significata, so every mental or conventional sign naturally presents itself, and every mental or conventional sign conventionally presents the sign(s) with which it is conventionally associated. Therefore, just as we must appeal to propositional context to determine which of the things it presents a conventional sign stands for in a proposition, so also with mental signs. Hence, (R1) is true and (R4), (R7), and (R8) apply to mental as well as conventional signs.

There are at least three objections to attributing this rationale to Ockham, however. (i) First, if this were his motive for extending the divisions of material and simple supposition to the mental language, we would not expect him to have a bias in favor of personal supposition. For if a term always presents itself and the signs with which it is conventionally associated, as well as its significata, it should be able to have material or simple supposition in any context in which it occurs the way it is able to have personal supposition in any context; e.g., 'man' should be just as apt to have material supposition in 'Man is an animal' as personal in 'Man is a spoken monosyllable'; to have simple supposition in 'Man is an animal' as personal in 'Man is a species'. And, as we have seen, Sherwood defends the bias in favor of personal supposition on the ground that whereas a term always presents its significata, it does not always present itself or the signs conventionally associated with it. Insofar as Ockham is following this tradition, there is some reason to see him as endorsing Sherwood's justification.

(ii) Second, it is unclear whether Ockham would really agree

that a mental term *presents itself*, or brings itself to mind. As we shall see below (see Part Three, chapter 13), Ockham denies that any mental act is an awareness of itself (is a "reflex" act). If I am aware of my act of thinking of Socrates, it is by a distinct mental act.

(iii) A third objection is that this proposal would render all mental language systematically ambiguous. For suppose that mental terms do always present themselves, the signs conventionally associated with them, and their significata, and it is this fact that makes a mental term able to have personal, material, or simple supposition in appropriate propositional contexts. If so, what makes it the case that a mental proposition corresponding to 'Man is a species' is the assertion of the concept 'man' that it is a species rather than the assertion of a particular man that he is a species? And since entertaining the thesis that man is a species is merely having such a mental proposition in mind, what makes it the case that I am having the one thought rather than the other? Something must; yet the above proposal does not explain what could.[104]

These objections are powerful. On the other hand, what better explanation is there of why Ockham transferred the tripartite division of supposition from spoken to mental language? Is it incredible that he sometimes found it obvious that anything presents itself by being present, and that one kind of term presents those with which it is conventionally associated just as much as its significata, and was thus moved to assign mental terms material and simple as well as personal supposition?

104. Paul Spade raises a related objection in his paper "Synonymy and Equivocation in Ockham's Mental Language," *Journal of the History of Philosophy* XVIII (1980): 9–22: "if mental terms may have simple or material supposition we do not always know what we are asserting in a mental sentence..." (21). But the issue is not really whether or not one of our thoughts could be about something (in the sense of a term's standing for some particular) without our knowing it. Ockham allows that when I think 'Every man is an animal', the term 'man' supposits for lots of things without my knowing that it does, since I have no awareness of those particular men. Rather the question is whether on the above proposal anything would make it the case that the term was suppositing for these things rather than those.

## 4. DIVISIONS OF PERSONAL SUPPOSITION

Although some of his predecessors gave detailed breakdowns of all three categories of supposition, Ockham reserves detailed consideration for the category of personal supposition. He first contrasts the personal supposition of singular terms such as 'Socrates' and 'this man', which he labels "discrete personal supposition," with that of general terms, which he labels "common personal supposition,"[105] and then proceeds to lay out the species of the latter. If the original division between personal, material, and simple supposition was based on a difference among the kinds of things a given term can stand for in a proposition, the divisions of common personal supposition are based on variations in how a general term stands for things it signifies.[106]

In particular, medieval logicians distinguished various kinds of common personal supposition on the basis of the possible descents to and ascents from the singulars under a general term in a propositional context. What they had in mind was this. If a nonempty general term supposits in a proposition for something it signifies, it should be possible in principle to indicate its supposita by singular terms, and the latter would constitute the singulars under a general term. Ockham contended that whenever a nonempty and multi-referential general term

105. *Summa logicae* I, c.70, (OPh I, 209–210).

106. In his lecture, "The Logic of the Categorical: The Theory of Modes of Personal Supposition," Council for Philosophical Studies, Summer Institute, 1980, Spade suggests that originally, whereas the division into personal, material, and simple supposition was supposed to answer the question "*What* does a term supposit for?" the modes of common personal supposition are to answer the question "How many does it supposit for?" (10–12). He cites Lambert of Auxerre who contrasts determinate supposition in which a common term supposits indifferently for one thing or several and confused supposition in which a common term of necessity is taken for all of its supposita or for several. But this was not Ockham's way of drawing the distinction. For him, a common term in personal supposition has supposition for all of its—present, past, future, or possible, depending on the verb or modal context—significata, but in different ways, e.g., conjunctively, disjunctively, etc.

occurs in a proposition, that proposition implies one or more propositions in which the general term is replaced by its singulars. For categorical propositions consisting of a subject, predicate, the copula, and sometimes quantifiers (such as 'every' and 'some') and negation signs (such as 'no' and 'not'), two such descents are possible: one under the subject and another under the predicate term. Sometimes it is also possible to ascend from the singular(s) to the proposition that contains the general term. Which propositions are implied in each descent depends on the syntactical relations of the general term to the syncategorematics in the proposition.

Accordingly, Ockham offers two sets of rules for each division: those which characterize the type of common personal supposition in terms of permitted descents and ascents, and those for identifying when a term has that type of common personal supposition. (4.1) *Common Determinate Supposition*. He characterizes common determinate supposition as follows:

> (C6) A general term has common determinate supposition in a proposition when if (a) it has many singulars under it, then (b) it is possible to descend under the general term to its singulars by means of a disjunctive proposition without changing the other extreme; and (c) it is possible to infer the proposition containing the general term from each singular,

where in practice he treats (a)–(c) as both necessary and sufficient.[107] As for when a term has it, Ockham stipulates,

> (R16) A common term has determinate personal supposition in a categorical proposition if (i) it does not fall within the scope of a universal sign (or its equivalent) which

107. *Summa logicae* I, c.70, (OPh I, 210). Condition (a) is not explicitly stated for determinate supposition, but it is for confused and distributive supposition, and the same rationale would apply in each case: there cannot be a conjunction or a disjunction of singulars if there are no singulars or there is only one singular.

> distributes the whole extreme of which it is a part, or (ii) it does not fall within the scope of a negation sign (or its equivalent),

where for a term to fall within the scope of a universal sign is for it to be "mediately or immediately governed by it"—i.e., for the universal sign to be added to the same extreme or to the preceding extreme—and for a term to fall within the scope of a negation sign is for it to come after it in the proposition.[108] Ockham treats conditions (i) and (ii) as both necessary and sufficient where the whole subject or whole predicate of a categorical proposition is concerned. Thus, he infers by condition (i) that neither the subject nor the predicate of 'Every man is an animal' nor the predicate of 'An animal is every man' has common determinate supposition, because each falls within the scope of the universal sign 'every'.[109] Likewise, condition (ii) excludes both the subject and the predicate of 'No man is an animal' and the predicate of 'A man is not an animal' because each falls within the scope of a negation sign. Ockham even treats conditions (i) and (ii) as necessary conditions when he excludes the partial extreme 'man' in 'Socrates is different from a man', on the ground that 'is different' is equivalent to a negation sign.[110] On the other hand, (R16) assigns common determinate supposition to both the subject and the predicate terms of 'A man is an animal' and 'Some man is an animal'.[111] And in accordance with (C6), it is possible to descend under the subject term, inferring 'A man is an animal; therefore this man is an animal or that man is an animal and so on for the other singulars' and to ascend from the singulars, inferring 'A man is this animal; therefore a man is an animal'.[112]

(4.2) *Merely Confused Supposition.* Ockham characterizes common merely confused supposition as follows:

108. *Ibid.*, c.71, (OPh I, 212–13).
109. *Ibid.*, (OPh I, 213).
110. *Ibid.*, (OPh I, 213–14).
111. *Ibid.*, (OPh I, 213).
112. *Ibid.*, c.70, (OPh I, 210).

(C7) A general term has common merely confused supposition in a proposition when if (a) it has many singulars, then (b) it is not possible to descend under the general term to its singulars by means of a disjunctive proposition without changing the other extreme, and (c) it is possible to descend under the general term to its singulars by means of a disjunctive predicate; and (d) it is possible to ascend from any singular to the proposition containing the general term.[113]

And he offers a list of identification rules that does not purport to be complete. First,

(R17) A general term has merely confused supposition in a proposition when it falls within the scope of a universal affirmative sign (or its equivalent) that governs the whole of the other extreme.[114]

Thus, the predicate term of a universal affirmative proposition has merely confused supposition by (R17); and by (C7b) the inference 'Every man is an animal; therefore either every man is this animal or every man is that animal or...' fails, but by (C7c) the inference 'Every man is an animal; therefore every man is either this animal or that animal or...' holds, as by (C7d) does the inference 'Every man is this animal; therefore every man is an animal'.[115] Since Ockham holds that 'Every man is an animal' and 'Only an animal is a man' convert, he likewise proposes

(R18) The subject of an affirmative exclusive proposition always has merely confused supposition.[116]

Again, Ockham holds that

(R19) A general term has merely confused supposition when

113. *Ibid.*, (OPh I, 211).
114. *Ibid.*, c.73, (OPh I, 226).
115. *Ibid.*
116. *Ibid.*, (OPh I, 228).

> it is part of the subject term and follows a universal sign that immediately governs another part but not the whole of the subject.[117]

Thus, 'man' in 'At every time after Adam some man existed' has merely confused supposition by (R19), because the universal sign 'every' immediately governs 'time' but not the rest of what follows it and precedes 'existed'. And by (C7b) the inference 'At every time after Adam some man existed; therefore at every time after Adam this man existed or at every time after Adam that man existed or...' fails, but by (C7c) the inference 'At every time after Adam either this man or that man or...existed' holds, as by (C7d) does 'At every time after Adam this man existed; therefore at every time after Adam some man existed'.[118]

(4.3) *Confused and Distributive Supposition.* Ockham characterizes confused and distributive supposition as follows:

> (C8) A general term has confused and distributive supposition when (a) if it has many singulars, (b) it is possible to descend in some way under the general term to its singulars in a conjunction; and (c) there is no formal inference from any singular to the proposition containing the general term.[119]

Condition (C8b) covers two subdivisions: Mobile Confused and Distributive Supposition in which

> (bi) it is possible to descend under the general term to its singulars in a conjunction without making any other change in the proposition.

and Immobile Confused and Distributive Supposition in which

117. *Ibid.*, (OPh I, 226).
118. *Ibid.*, (OPh I, 227).
119. *Ibid.*, c.70, (OPh I, 211).

(bii) it is possible to descend under the general term to its singulars in a conjunction only where some change is made in addition to the replacement of the general term by its singulars—viz., something is left out.[120]

Without purporting to be exhaustive, Ockham offers several identification rules for Mobile Confused and Distributive Supposition:

(R20) The subject of any universal propostion—whether affirmative or negative—that is not exclusive or exceptive has mobile confused and distributive supposition

and

(R21) The predicate of a universal negative proposition that is not exclusive or exceptive has mobile confused and distributive supposition.[121]

Thus, the subject of 'Every man is an animal' and both subject and predicate of 'No man is an animal' have this type of common personal supposition. These examples show (bi) to be inaccurate where descent under subject terms is concerned, however. For the prescribed descent is from 'Every man is an animal' to 'This man is an animal and that man is an animal and....' and from 'No man is an animal' to 'This man is not an animal and that man is not an animal and...' But in both cases, descent under the subject term involves dropping the initial quantifier, and in the second case inserting a negation sign governing the copula.[122] It does cover descent under the

120. *Ibid.*, (OPh I, 211–12).

121. *Ibid.*, c.74, (OPh I, 228–29).

122. Ockham seems to abide by (bi) as it stands when he argues that the subject term of 'Only a man runs' does not have Mobile Confused and Distributive Supposition, because 'Only a man runs; therefore only this man runs and only that man runs and...' is not a good inference, where 'only' remains prefixed to each conjunct (*ibid.* II, c.17, (OPh I, 303); cf. (OPh I, 304–305)).

predicate term from 'No man is an animal' to 'No man is this animal and no man is that animal and...', however. Further, Ockham holds that

(R22) The predicate of a proposition whose principal copula is governed by a negation sign has mobile confused and distributive supposition.

For example, the predicate of 'A man is not an animal', which implied the conjunction 'A man is not this animal and a man is not that animal and...' by (C8bi), while 'A man is not this animal; therefore a man is not an animal' is not a formal inference by (C8c).[123] Again, Ockham proposes that

(R23) A term that immediately follows the verb 'differs' or the verb 'is distinct from' or the corresponding participles or the noun 'other than' or their equivalent, has mobile confused and distributive supposition.

Thus, Ockham claims, the inference 'Socrates is other than a man; therefore Socrates is other than this man and Socrates is other than that man and...' holds by (C8bi), while the inference 'Socrates is other than this man; therefore Socrates is other than a man' does not.[124] His corresponding claims about 'Socrates differs from a man' and 'Socrates is distinct from a man' accord less well with ordinary English usage.[125]

As for Immobile Confused and Distributive Supposition, Ockham offers the following identification rule:

(R24) The subject of an exceptive proposition always has immobile confused and distributive supposition.

For example, one cannot descend to the singulars under the subject term of 'Every man but Socrates is running' to 'This man but Socrates is running and that man but Socrates is running and...'

123. *Ibid.* I, c.74, (OPh I, 229).
124. *Ibid.*
125. *Ibid.*

Rather one must leave the 'but Socrates' out (an instance of (C8bii)) and descend to 'Socrates does not run and this man runs and that man runs and so on for all the men other than Socrates'.[126] Further, because the descent is limited to all of the singulars other than Socrates, Ockham sometimes says it has "limited confused and distributive supposition."[127]

(4.4) *Difficulties.* If these divisions of common personal supposition are intended to chart the descents and ascents between general terms and their singulars, they seem to be something of hodgepodge. Ockham's focus has been principally on general terms that constitute the whole extreme of indefinite and the standard *A, I, E,* and *O*-form categorical propositions. His consideration of propositions including verbs other than the copula—such as '*A* differs from *B*'—and his treatment of the supposition of partial extremes is neither systematic nor exhaustive. His discussion of what is left out in descents under terms with Immobile Confused and Distributive Supposition remain unacceptably vague.

Some commentators have argued that his divisions do not even provide an adequate treatment of the examples that he does bring up. (4.4.1) *Not All of the Divisions Are Necessary.* First, it is charged that the division of Merely Confused Supposition is superfluous. Logically, the most obvious ways to descend to singulars under a general term would be in a disjunction (Determinate Supposition) or conjunction (Confused and Distributive Supposition) of singulars. The division of Merely Confused Supposition was introduced to cover cases in which such descents were "immobilized" or blocked. Thus, Burleigh writes,

> Merely confused supposition occurs when a common term supposits for many in such a way that it is inferred from each of the terms and it is impossible to descend to any of them either in a conjunction or in a disjunction. This is the way the predicate supposits in 'Every man is an animal', because the term 'animal' supposits for many, since the proposition would be false if the term supposited for any determinate

126. *Ibid.*, (OPh I, 230).
127. *Ibid.* II, c.18, (OPh I, 308).

> one. And it is inferred from each singular, since the inference 'Every man is this animal; therefore every man is an animal' holds. And it is impossible to descend under 'animal' either in a disjunction or a conjunction. For neither the inferences 'Every man is an animal; therefore every man is this animal or every man is that animal...' nor the inference 'Every man is an animal; therefore every man is this animal and every man is that animal etc.' holds.[128]

Peter of Spain ultimately concludes that where this happens the term does not have personal supposition after all, but simple supposition.[129] Sherwood characterizes merely confused supposition in terms of the impossibility of descent to singulars.[130] Ockham's characterization mentions the impossibility of descent to singulars in a disjunction (C7b), but he omits the impossibility of descent to a conjunctive. Perhaps he thought the latter condition would be redundant, since where it is impossible to descend to a disjunction it is likewise impossible to descend to a conjunction. On the other hand, Ockham introduces the idea of non-truth-functional descent to a disjunctive predicate (condition (C7a)), which is cautiously mentioned by Buridan ("although perhaps the singulars follow in a proposition with a disjunctive extreme").[131]

Some historians of logic have argued that the two divisions of (Mobile) Confused and Distributive Supposition and Determinate Supposition are really enough. The former corresponds to universal and the latter to existential quantification;[132] the permitted descents under conjunction (C8bi) and disjunction (C6b) roughly parallel universal and existential instantiation; the prohibited (C8c) and permitted (C6c) ascents, universal and ex-

128. *Op. cit.*, Tractatus primus, De proprietatibus terminorum, 21.

129. *Summulae logicales*, Tractatus suppositionum, (Mullally ed., 8–16).

130. *Op. cit.*, chap.5, sec.2, 108–109 and 119.

131. *Tractatus de suppositionibus*, 40, in a reprint (Florence, 1957) of Maria Elena Reina, "Giovanni Buridano, Tractatus de suppositionibus," *Rivista critica di storia della filosofia* XII (1957).

132. Peter Thomas Geach, *Reference and Generality*, (Ithaca, NY, 1962), 175–76. John Swiniarski, "A New Presentation of Ockham's Theory of Supposition with an Evaluation of Some Contemporary Criticisms," *Franciscan Studies* N.S. XXX (1970): 209–210.

istential generalization, respectively. The "problem" cases can be handled simply by laying down a priority of analysis rule, telling us to descend under the other term first.

Would medieval logicians have welcomed such a suggestion? The answer depends in part on what the proposed rule looks like. One suggestion is

> (R25) In categorical propositions whose subjects and predicates are both general terms, always descend under the subject term first and then descend under the predicates of the resultant propositions.[133]

This rule would allegedly eliminate the need to assign Merely Confused Supposition to the predicate of 'Every man is an animal' (and the cases of Merely Confused Supposition posited by (R17) generally). For descending first under the subject, we get 'This man is an animal and that man is an animal and...', and (R16) assigns determinate supposition to the predicate of each conjunct. (R25) would be counterproductive for dealing with the subject terms of exclusive propositions (the range of cases postulated by (R18)), however, and with the partial extremes mentioned in (R19). We might try to remedy this defect by substituting a more specific rule:

> (R26) In categorical propositions whose subject and predicate are both general terms, (i) if the proposition is universal and affirmative, descend first under the subject term; (ii) if the proposition is exclusive but affirmative, descend first under the predicate; and (iii) if the proposition contains a universal sign that determines only part of the extreme, descend under the part so governed first.

Thus, from 'Only an animal is a man' we would infer 'Only an animal is this man and only an animal is that man and...' The subject term of each conjunct could then be assigned deter-

133. Swiniarski, *op. cit.*, 209.

minate supposition. Again, from 'At every time after Adam some man existed' we could infer 'At this time after Adam some man existed and at that time after Adam some man existed and...', and 'man' in each conjunct could be assigned determinate supposition. But even (R26) would be inapplicable to propositions such as 'I promise you a horse,' where Ockham proposes a descent to a disjunctive term under the partial extreme 'horse'.[134] Thus, it seems doubtful that any general priority of analysis rule could cover all of the cases. The most we could hope for would be an ad hoc list.

Even if it is replied that Ockham's identification rules represent an ad hoc list already, there will still be reason to doubt whether medieval logicians would have looked favorably on such priority of analysis rules. For the latter assume that the interest in identifying kinds of common personal supposition is always one that is served by descending under both extremes at once. Medieval discussions including Ockham's make no such interest explicit, however. On the contrary, they—to my knowledge invariably—treat descent under each term separately and purport to offer rules that are indifferent to the order of "analysis." We shall return to this issue in section 5 below.

(4.4.2) *Ockham's Divisions Require Supplementation.* On the other side, it seems easy to argue that Ockham's divisions are insufficient to cover all of the cases he mentions. (a) At first he seems to concede this himself in his discussion of propositions containing verbs such as 'begins' and 'ceases'. He denies that 'literate' has determinate, merely confused, or confused and distributive supposition, on the ground that it is impossible to descend under 'literate' in the relevant ways. The last is clear enough, since where many people are literate, Socrates does not begin to be each and every one of them. But Ockham also declares that

134. *Summa logicae* I, c.72, (OPh I, 219–221). Spade emphasizes the last case in his article "Priority of Analysis and the Predicates of 'O'-Form Sentences," *Franciscan Studies* N.S. XXXVI (1976): 263–270, at 265–68, where he concludes that "The 'priority of analysis' rule is a red herring."

> The inference 'Socrates begins to be literate; therefore Socrates begins to be this or Socrates begins to be that or...' (where all of those for which the predicate supposits are indicated) does not hold, because the premiss can be true when each part of the conclusion is false.[135]

Suppose that after Socrates has learned to read, only Socrates, Plato, and Aristotle are literate. Ockham's thought is that Socrates does not begin to be Socrates, because he has been Socrates throughout his existence and the proposition 'Socrates begins to be literate' does not imply the proposition 'Socrates begins to exist'.[136] Nor does Socrates begin to be Plato or Aristotle, since it is impossible that he should be either of them. Hence he does not begin to be any of the persons who are literate, and the disjunctive proposition is false. The same considerations make the proposition with the disjunctive predicate false as well. Ockham's conclusion is that "it can be said that the predicate term in such propositions—whether what follows the verb is a substantive expression or even an adjective—...has another kind of supposition for which we lack a name."[137] It is characterized by

(C7d) It is possible to ascend from any singular to the proposition containing the general term

—since 'Socrates begins to be this (where any literate person is indicated); therefore Socrates begins to be literate' holds; but by the negation of

(C7a&c) If it has many singulars under it, it is possible to descend under the general term to its singulars by means of a disjunctive predicate

and

(C6a–b) If it has many singulars under it, then it is possible to

135. *Summa logicae* I, c.75, (OPh I, 231).
136. Cf. *ibid.* II, c.19, (OPh I, 315).
137. *Ibid.* I, c.75, (OPh I, 231).

> descend under the general term to its singulars by means of a disjunctive proposition without changing the other extreme.

Nevertheless, Ockham does not think this sort of case is so damaging to his theory of common personal supposition, because the anomaly can be readily explained in terms of the fact that 'Socrates begins to be literate' is exponible into 'Socrates is literate now for the first time and was not literate before', and 'literate' occurs with determinate supposition in the first exponent and with confused and distributive supposition in the second. The predicate of the exponible proposition somehow conflates the two and so does not have common personal supposition of any of the ordinary types.[138]

The latter attempt to explain away this range of counterexamples suggests an appeal to the general thesis that where a proposition is exponible, we should not apply the identification rules to its terms directly but only to those of its exponents. Ockham does not follow this practice, however. For he thinks that any categorical proposition containing a connotative term, e.g., 'Socrates is white', is exponible, e.g., into 'Socrates exists and whiteness inheres in Socrates'.[139] Likewise, affirmative exclusive propositions such as 'Only an animal is a man' are exponible by 'An animal is a man and nothing other than an animal is a man'.[140] Yet Ockham offers identification rules that apply directly to them. What difference does he see between the latter cases and propositions containing 'begins' and 'ceases'? Ockham replies that

> The subject of an affirmative exclusive proposition has merely confused supposition. For although its exponents have subjects with different suppositions, nevertheless their subjects are not the same as the subject of the exclusive proposition, since the negative exponent has a different subject from the affirmative. Therefore, the subject of the exclusive proposition will be able to have one of the above mentioned

138. *Ibid.*, (OPh I, 232).
139. *Ibid.* II, c.11, (OPh I, 281).
140. *Ibid.*, c.17, (OPh I, 296).

> three suppositions. Now in such propositions as 'Socrates begins to be literate', 'Socrates ceases to be white', 'Socrates was black twice', the subject of exponents is the same as the subject of expounded proposition, however,[141]

and so is the predicate.

By the time he wrote *Summa logicae* II, however, Ockham had thought of a way to handle such propositions without positing another principal division of common personal suppostion. He distinguished descents in which the singular descended to is a proper name or demonstrative pronoun taken by itself—e.g., Socrates begins to be literate; therefore Socrates begins to be this or Socrates begins to be that or...'—from those in which it is a demonstrative pronoun taken together with an adjective—e.g., 'Socrates begins to be literate; therefore Socrates begins to be this literate or Socrates begins to be that literate or...'. The first sort of descent is impossible, but the second sort is possible under the predicate term of propositions containing such verbs. For although Socrates does not begin to be Socrates or begin to be Plato or begin to be Aristotle, he does begin to be white Socrates because he is white Socrates and was not white Socrates before. Hence he begins to be white Socrates or he begins to be white Plato or he begins to be white Aristotle etc.

Ockham notes further that his characterization of determinate supposition in *Summa logicae* I, c.70, did not distinguish the two sorts of singulars, since it makes no difference for the propositions he was concentrating on there —simple categoricals whose main verb is the present tense copula. But this characterization will not hold good in general where singulars are understood the second way, since

(C6c) it is possible to infer the proposition containing the general term from each singular

will sometimes fail. For while one can—in accordance with

141. *Ibid.* I, c.75, (OPh I, 232–33).

(C6a–b)—descend from 'Socrates begins to be colored' to 'Socrates begins to be white or Socrates begins to be black or...', one cannot ascend from 'Socrates begins to be white' to 'Socrates begins to be colored'.[142] These reservations do not really require a new division of common personal supposition, however. For what must be preserved for determinate supposition is the possibility of ascent from the proposition containing the singular term 'this *A*' to the proposition containing '*A*', not ascent to the proposition containing '*B*', where '*B*' is a general term to which '*A*' is subordinate.

Thus, Ockham suggests that

(R27) If the predicate of a singular categorical proposition whose main verb is 'begins' or 'ceases' is a general term, it has determinate supposition, where determinate supposition is defined by the second sort of descent,

and

(R28) If the predicate of a universal affirmative categorical proposition whose main verb is 'begins' or 'ceases' is a general term, it has merely confused supposition, where merely confused supposition is defined by the second sort of descent[143]

(b) In giving identification rules, Ockham brings up the proposition 'An animal is every man' and assigns its subject term determinate supposition.[144] But what sort of supposition does the predicate term of 'No animal is every man' have? Not confused and distributive, because the inference 'No animal is every man; therefore no animal is this man and no animal is that man and...' does not hold good. Not determinate because the inference 'No animal is every man; therefore no animal is this man

142. *Ibid.* II, c.19, (OPh I, 314–15).
143. *Ibid.*, (OPh I, 313–315).
144. *Ibid.* I, c.71, (OPh I, 213).

or no animal is that man or...' fails. Not merely confused, because the inference 'No animal is every man; therefore no animal is either this man or that man or...' is likewise to be rejected.[145]

One solution to this difficulty would be to appeal to the priority of analysis rule (R25). Descending first under the subject of 'No animal is every man' by (Cbi), we get 'This animal is not every man and that animal is not every man and...' Determinate supposition can then be assigned to the predicate term of each conjunct. This proposal inherits all of the above mentioned difficulties, however.

Alternatively, one could assume a further division of common personal supposition, parallel to Merely Confused Supposition and characterized by a descent to singulars not in a conjunction or disjunction and not in a disjunctive extreme, but in a proposition with a *conjunctive* extreme. Thus, descending under the predicate of 'No animal is every man,' we get 'No animal is this man and that man and...'[146]

## 5. IS THE THEORY OF COMMON PERSONAL SUPPOSITION A THEORY OF QUANTIFICATION?

If the divisions of common personal supposition constitute a theory, what is it a theory about? Searching for an analogue in modern logic, much of the secondary literature assigns it the ambitious role of a theory of quantification. But is it a theory of quantification? And/or was it so intended by Ockham? The very question has an anachronistic air about it. What is meant by

145. Alfred J. Freddoso focuses on propositions with a universal quantifier before the predicate in arguing that Ockham did not intend his divisions of common personal supposition as a theory of quantification ("Ockham's Theory of Truth Conditions," in *Ockham's Theory of Propositions*, 16–28). See section 5 below.

146. Freddoso, *op. cit.*, 22–23, discusses both proposals. Swiniarski mentions this new division of common personal supposition, which he calls "Impurely Confused" supposition, as a solution to a problem about *O*-form propositions, and rejects it for that purpose (*op. cit.*, 212–13). See section 5 below.

'theory of quantification' in this context? A set of axioms and rules of inference that would be adequate to prove all of the valid formulae containing quantifiers in a given language? Ockham never conceived of such a program, and his divisions of common personal supposition are obviously inadequate to that task. But the doctrine of descent to and ascent from singulars can suggest an attempt at a Ramsey-style contextual definition of quantifiers and/or the more modest proposal to give truth conditions for sentences containing general terms and quantifiers in terms of propositions whose subjects and predicates are singular terms.

Commentators who find this idea attractive begin by suggesting that where first order predicate calculus quantifies over individuals, medieval logic quantifies over terms.[147] According to Ockham, in simple *A*, *I*, *E*, and *O*-form propositions, the quantifiers affect both terms—the subject immediately and the predicate term mediately. Hence, each sentence frame—'Every ____ is ____', 'Some ____ is ____', 'No ____ is ____', and 'Some ____ is not ____'—in effect involves two quantifications. Thinking that this amounts to saying that each implicitly contains two quantifiers,[148] they are drawn to the idea that Ockham's doctrine of descents and ascents under the subject and predicate terms is intended to map the effect of such quantifiers.

In developing their case, these commentators put a certain construction on the metalinguistic characterizations of the various divisions of common personal supposition in (C6)–(C8). (i) First, they assume that the descents described in (C6a–b), (C7a&c), and (C8a–bi) are intended by Ockham to be reversible. Hence, he is taken to assert that a proposition with a general term in Determinate Supposition *is equivalent to* a disjunction of propositions in which the general term is replaced by one of

147. Gareth B. Matthews makes this point in "Ockham's Supposition Theory and Modern Logic," *Philosophical Review* LXXIII (1964): 91–99.

148. Matthews worries about the fact that no quantifiers are explicitly stated immediately in front of the predicate term in *A*, *I*, *E*, and *O* propositions ("*Suppositio* and Quantification in Ockham," *Nous* VII (1973): 13–24, especially 16). But Ockham doubtless thinks this unnecessary: the initial quantifier together with position in the sentence does the job.

its singulars, a proposition with a general term is replaced by a disjunction of its singulars; a proposition with a general term in Merely Confused Supposition is equivalent to one in which the general term is replaced by a disjunction of its singulars; and a proposition with a general term in Confused and Distributive Supposition *is equivalent to* a conjunction of propositions in which the general term is replaced by one of its singulars.

(ii) Second, they assume that the metalinguistic rules are intended by Ockham to describe object-language equivalences, and so can be restated as such. Let substitutions for '*A*' and '*B*' be general terms, for '$A_i$' and '$B_j$' singulars falling under those general terms. Suppose further that there are $n$ *A*'s and $m$ *B*'s where $n$ and $m$ are both greater than zero. They apply Ockham's identification and characterization rules to derive the following equivalences:

(E4) Every *A* is *B* if and only if ($A_1$ is *B* and $A_2$ is *B* and ... $A_n$ is *B*)

(E5) Every *A* is *B* if and only if (Every *A* is $B_1$ or $B_2$ or ... $B_m$)

(E6) Some *A* is *B* if and only if ($A_1$ is *B* or $A_2$ is *B* or ... $A_n$ is *B*)

(E7) Some *A* is *B* if and only if (Some *A* is $B_1$ or some *A* is $B_2$ or ... some *A* is $B_m$)

(E8) No *A* is *B* if and only if ($A_1$ is not *B* and $A_2$ is not *B* and ... $A_n$ is not *B*)

(E9) No *A* is *B* if and only if (No *A* is $B_1$ and No *A* is $B_2$ and ... No *A* is $B_m$)

(E10) Some *A* is not *B* if and only if ($A_1$ is not *B* or $A_2$ is not *B* or ... $A_n$ is not *B*)

(E11) Some *A* is not *B* if and only if (Some *A* is not $B_1$ and some *A* is not $B_2$ and ... some *A* is not $B_m$)

Given (E4)–(E11), some find it inviting to compare Ockham's doctrine of descents and ascents with the claim by Ramsey, Johnson, and Wittgenstein that

(x) Fx

is equivalent to

Fa & Fb & Fc & Fd & ...

while

(Ex) Fx

is equivalent to

Fa v Fb v Fc v Fd v ...

and to see in them a contextual definition of quantifiers.[149] Perhaps Ockham's theory of Common Personal Supposition is an attempt at such a contextual definition as well. Alternatively, whether or not those equivalences constitute *definitions*, they can still be regarded as stating the truth conditions for propositions with quantified general terms by means of conjunctions and disjunctions that replace quantified general terms with singulars.[150]

149. Matthews makes this comparison in "*Suppositio* and Quantification in Ockham," 13–14. Actually Ramsey regarded it "only as a contribution to the analysis of 'I believe that all (or some)'" (*The Foundations of Mathematics and Other Logical Essays*, (New York, 1950), 153).

150. This weaker hypothesis was advanced by Ernest A. Moody, in *Truth and Consequence in Mediaeval Logic*, sec.I.2, 10–11 and 15; II.5, 23; II.8, 32; III.11, 48. William Kneale assumes that descent is to a logically equivalent statement (*The Development of Logic*, 268). In his article "A New Presentation of Ockham's Theory of Supposition with an Evaluation of Some Contemporary Criticisms," John Swiniarski speaks of Ockham's *analyzing* the propositions in which the general term occurs in terms of singulars (191–92) and assumes that the propositions are equivalent (211–13). The weaker hypothesis has been taken up by Michael Loux, "Ockham on Generality," in

Nevertheless, some temptations are to be resisted. And some commentators have defended the following argument:

1. If Ockham's theory of Common Personal Supposition were taken as a theory of quantification, it would be a very bad theory of quantification for reasons $r_1$, $r_2$, $r_3$, ...

2. The Principle of Charity forbids us to attribute such a bad theory to Ockham, the More than Subtle Doctor.

3. Therefore, we should not suppose that Ockham intended his theory of Common Personal Supposition as a theory of quantification.

Various reasons are supplied for premiss 1 against the stronger and the weaker of the above mentioned hypotheses.

(5.1) *First Objection: Ockham's Descents Are Not Uniformly Reversible.* The above attempt to find a theory of quantification—whether in the form of a contextual definition of quantifiers, or a statement of truth conditions for quantified propositions—in Ockham's theory of Common Personal Supposition can succeed only if all of the prescribed descents are reversible. (E11) is an obvious howler, however. For where Socrates and Plato are the only men, 'Some man is not an animal' (an instance of the left-hand side of (E11)) is false, while it is true that some man, viz., Socrates, is not the animal that Plato is and some man, viz., Plato, is not the animal that Socrates is (an instance of the right-hand side of (E11)). The Principle of Charity thus requires us to deny that Ockham intended to assert (E11) or saw himself as providing a theory of quantification.[151]

*Ockham's Theory of Terms*, 28ff, and Paul Spade, "Priority of Analysis and the Predicates of 'O'-Form Sentences," 265, where he declares that "While Matthews is certainly right in saying that Ockham never claims equivalence explicitly, I for one find it hard to imagine that he means anything else. For if equivalence fails, the elaborate distinction of various kinds of personal supposition cannot be used in an account of truth-conditions. What then is the distinction for? Is it simply an idle decoration in the theory of supposition?"

151. Matthews argues this way in "*Suppositio* and Quantification in Ockham," 20.

Other commentators, unwilling to abandon this interpretive hypothesis, have refused to go so far with charity. They assume that even a logician of Ockham's stature could let (E11) slip by in haste, and suggest that the difficulty it causes is easily mended in one of two ways. (a) One could modify Ockham's identification rules to assign the predicate of *O*-form propositions Merely Confused Supposition instead of Mobile Confused and Distributive Supposition, and replace (E11) with

(E12) Some $A$ is not $B$ if and only if some $A$ is not $B_1$ or $B_2$ or ... $B_m$.[152]

(b) Alternatively, one could adopt (R25) which would require us first to resolve the *O*-form proposition according to (E10). And (R22) assigns Mobile Confused and Distributive Supposition to the predicate of each conjunct. And

(E13) Some $A$ is not $B$ if and only if (($A_1$ is not $B_1$ and $A_1$ is not $B_2$ and ... $A_1$ is not $B_m$) or ($A_2$ is not $B_1$ and $A_2$ is not $B_2$ and ... $A_2$ is not $B_m$) or ... ($A_n$ is not $B_1$ and $A_n$ is not $B_2$ ... $A_n$ is not $B_m$))

does hold good.[153] (E13) displays the effect of 'some' and 'not' on both general terms at once. And this result inspires the thought that, by abiding by (R25), *A*, *I*, and *E* propositions can be reduced to expansions of singulars the same way:

(E14) Every $A$ is $B$ if and only if (($A_1$ is $B_1$ or $A_1$ is $B_2$ or ... $A_1$ is $B_m$) and ($A_2$ is $B_1$ or $A_2$ is $B_2$ or ... $A_2$ is $B_m$) and ... ($A_n$ is $B_1$ or $A_n$ is $B_2$ or ... $A_n$ is $B_m$));

152. This proposal is made by Spade, "Priority of Analysis and the Predicates of 'O'-Form Sentences," 269–270, and also by Graham Priest and Stephen Read, "The Formalization of Ockham's Theory of Supposition," *Mind* N.S. LXXXVI (1977): 109–113, especially 109, 111–12.

153. The adoption of this priority of analysis rule is the suggestion preferred by Swiniarski, *op. cit.*, 211–12. Spade rejects it in "Priority of Analysis and the Predicates of 'O'-Form Sentences," 265–68.

(E15) Some $A$ is $B$ if and only if (($A_1$ is $B_1$ or $A_1$ is $B_2$ or ... $A_1$ is $B_m$) or ($A_2$ is $B_1$ or $A_2$ is $B_2$ or ... $A_2$ is $B_m$) or ... ($A_n$ is $B_1$ or $A_n$ is $B_2$ or ... $A_n$ is $B_m$));

(E16) No $A$ is $B$ if and only if (($A_1$ is not $B_1$ and $A_1$ is not $B_2$ and ... $A_1$ is not $B_m$) and ($A_2$ is not $B_1$ and $A_2$ is not $B_2$ and ... $A_2$ is not $B_m$) and ... ($A_n$ is not $B_1$ and $A_n$ is not $B_2$ and ... $A_n$ is not $B_m$)).

(E13)–(E16) make the comparison with Ramsey-style contextual definitions even more inviting. A fortiori, they could be regarded as stating truth conditions.[154]

(5.2) *Second Objection: A Contextual Definition of Quantifiers?* It may be argued from Charity that Ockham did not intend either (E4)–(E11) or (E12), (E13)–(E16) as contextual definitions of quantifiers in terms of expansions of singulars because they would be unsuccessful definitions. One reason is that —even leaving (E11) out of account—the expansions of singulars on the right-hand side are not logically equivalent to the quantified statements on the left-hand side. (a) 'Every literate is Greek' will not be equivalent to 'Socrates is this Greek and Plato is that Greek and Aristotle is the other Greek'. We need at least to add that Socrates, Plato, and Aristotle are all the literate persons there are. Likewise, the stipulation that there are $n$ $A$'s and $m$ $B$'s, where both $n$ and $m$ are greater than one, strictly speaking, should be included on the right-hand sides—in which case the right-hand sides will no longer be free either of quantifiers or of general terms.[155]

(b) Again, (E4)–(E10), (E12), and/or (E13)–(E16) cannot be regarded as successful contextual definitions of quantifiers,

154. Loux prefers this version of the weaker thesis in "Ockham on Generality," 30.

155. Ramsey makes a parallel observation, *op. cit.*, 154. Matthews mentions this consideration as a reason why Ockham might not have claimed equivalence but only the possibility of descent to singulars in "*Suppositio* and Quantification in Ockham," 20.

because such expansions of singulars as are found on their right-hand sides are inapplicable where the general term in question is mono-referential or empty. Yet, according to Ockham, *E* and *O* propositions can be true even if either or both categorematic terms are empty,[156] while *A* and *I* propositions can be true where one or both of the categorematic terms is mono-referential.[157] And Ockham does not want to admit that quantifiers such as 'every', 'some', and 'no' function differently depending on whether the categorematic terms are poly-referential, mono-referential, or empty.[158]

(c) If empty terms pose a problem, so do general terms with infinite domains. For a successful definition must make the meaning of the *definiendum* clear. But where there are infinitely many singulars, (E13)–(E16) resolve quantified propositions into infinitely many conjunctions and/or disjunctions. And we cannot understand such infinitely long propositions.

(5.3) *Objection Three: The Equivalences Cannot Provide Truth Conditions Either.* The considerations raised in (5.2a) and (5.2b) above seem to block an object-language statement of truth conditions for *A*, *I*, *E*, and *O*-form categoricals in terms of quantifier-free expansions of singulars alone. But they do not show that the modified equivalences could not serve this

156. *Summa logicae* I, c.72, (OPh I, 218–19).

157. *Ibid.* II, c.4, (OPh I, 260–61).

158. Matthews in "*Suppositio* and Quantification in Ockham" raises this issue and concludes: "But now it becomes absurd to consider the doctrine of descent as an embryo quantification theory. A doctrine that applies to propositions of the logical forms 'No *S* is *P*' and 'Some *S* is not *P*', only in case their terms are nonempty (perhaps only in case they are poly-referential) is not a quantification theory at all, not even a rudimentary one" (22). In the course of elaborating this point, Matthews worries about how the distinctions among the various types of common personal supposition can be drawn for mono-referential and empty terms, since there can be no conjunction or disjunctions of different singulars, where there is only one or there are no singulars (21–22). This concern seems misguided, however, since Ockham relies on his identification rules for determining that 'god' has Determinate Supposition in 'Some god is omnipotent', not the characterization rules. Where the metalinguistically described descents cannot be made to true propositions, the original proposition is deemed false.

purpose. At least one commentator thinks that the problem about infinite domains mentioned in (5.2c) would exclude them, however, since the truth conditions should be just as intelligible to us as definitions must be.[159]

(5.4) *Evaluation*. Although Ockham does not, in my opinion, intend his divisions of common personal supposition as a theory of quantification, the above objections do not provide uniformly good reasons for thinking so. We have seen how some commentators argue that the first, in (5.1), is inconclusive. As for the second, in (5.2), the fact that a Ramsey-style contextual definition of quantifiers is impossible would not, by itself, support an argument from Charity that Ockham did not attempt it. After all, if Ramsey, Wittgenstein, and Johnson seriously considered such a proposal, it would not be all that uncharitable to attribute it to another fine logician!

The biggest objection to supposing that Ockham saw his divisions as a theory of quantification is that he never claims equivalence between *A*, *I*, *E*, and *O* propositions, on the one hand, and quantifier-free expansions of singulars, on the other. Nor do we need an argument from Charity to show that he did not regard all of the proposed descents as reversible. For in outlining the divisions of Common Personal Supposition, Ockham never asserts that *any* of them is reversible. Where Determinate Supposition is concerned, he notes in (C6c) that one can ascend from one singular to the proposition containing the quantified general term (e.g., in 'Socrates is an animal; therefore some man is an animal') but does not comment on the possibility of ascending from the disjunction (as in 'This man is an animal or that man is an animal or...; therefore some man is an animal'). Again, with Merely Confused Supposition, Ockham tells us in (C7d) that we can infer 'Every man is an animal' from 'Every man is this animal', but does not mention the inference 'Every man is this animal or that animal or...; therefore every man is an animal' there. Finally, with Mobile Confused and Distributive Supposition, he explicitly rejects the inference

159. Alfred J. Freddoso, "Ockham's Theory of Truth Conditions," 24–26.

'Socrates is white; therefore every man is white' in (C8c), but has nothing to say about whether the conjunction of all of the singulars implies the propositions with quantified general terms. If Ockham had wished to present his theory of common personal supposition as a theory of quantification based on equivalences between propositions containing quantified general terms and expansions of singulars, surely he would not have remained silent on this point.

Likewise, it is not the argument from Charity, but the fact that Ockham never asserts the relevant equivalences, which undermines the hypothesis that he intended the divisions of Common Personal Supposition to serve as Ramsey-style contextual definitions of quantifiers.

Nor will the points raised in (5.2) and (5.3) support an argument from Charity that while Ockham did not propose object-language equivalences, he did intend to offer object-language inference rules. For these considerations can be marshalled with equal success or failure against both claims. Paralleling (5.2a), it is clear that the inference 'Some literate is Greek, therefore either Socrates is Greek or Plato is Greek or Aristotle is Greek' does not hold without the addition 'Socrates, Plato, and Aristotle are all the literates there are' to the consequent.[160] On the other hand, it is not clear that Ockham regarded descent as a move to quantifier-free propositions. For, implicitly recognizing the difficulty posed by (5.2a), his examples of conjunctions and disjunctions end with the clause "and so on for the singulars" (*et sic de singulis*).[161]

Again, if Ockham had been aiming to state inference rules in the object-language, he would have had to worry about the empty-term (5.2b) and infinite domain (5.2c) objections as much for one direction descents as for equivalences. (Monoreferential terms would have posed no special problem for descents assigned for Determinate and Mobile Confused and

160. Matthews notes this fact in "*Suppositio* and Quantification in Ockham," 19–20.

161. For example, *Summa logicae* I, c.70, (OPh I, 210, lines 20–21, 33–34, 35–37); (OPh I, 211, lines 50–52, 54–57).

Distributive Supposition, since both hold even though each reduces to descent to one singular proposition. Following (C8c), 'Aristotle is Greek' does not imply 'Every literate is Greek', but 'Aristotle is Greek and Aristotle is every literate person' does. And the contrast between descent to a disjunction of singulars (C7a–b) and descent to a disjunctive extreme (C7a–c) collapses.) But Ockham does not assert equivalences at all, and all of his characterizations of the divisions of common personal supposition are metalinguistic. If we cannot understand or formulate (except recursively) an infinitely long conjunction or disjunction, Ockham's metalinguistic characterizations are intelligible nonetheless.

## 6. FALLACY DETECTION

Commentators come closer to the truth when they relegate Ockham's division among types of common personal supposition to his theory of inference.[162] After all, descents and ascents are inferences, whether or not they are reversible. But what role do they play in a theory of inference? Ockham's characterizations obviously do not catalog all of the permissible and tempting-but-prohibited inferences to be drawn from or among the standard types of categorical propositions. They do not even do this job where inferences between quantified general terms and their singulars are concerned. For, as we have seen, Ockham has nothing to say in this context about the reversibility of descents. Even if his views about the latter can be extrapolated from his remarks elsewhere in the *Summa logicae,* this uniform omission makes it highly implausible that he intended his treatment of the divisions of common personal supposition to supply such a list.

If we want to assess the role of supposition theory in medi-

162. Calvin G. Normore, in his unpublished reply to Alfred J. Freddoso's "*O*-Propositions and Ockham's Theory of Supposition," read at the Eastern Division APA, 1979. Freddoso accepts this diagnosis in "Ockham's Theory of Truth Conditions," 28.

eval theories of inference, we will do better to look—for at least part of our answer—at where its divisions are *explicitly* appealed to. When we do, we find that it is in the context of rules for identifying and avoiding fallacies. The very organization of William of Sherwood's *Introduction to Logic* suggests this intent: chapter 1 deals with statements and corresponds to Aristotle's *De interpretatione*; chapter 2, with predicables and parallels Porphyry's *Isagoge*; chapter 3, with syllogisms as covered by Aristotle's *Prior Analytics*; chapter 4, with the dialectical reasoning of the *Topics*; and chapter 6, with fallacies of the *Sophistical Refutations*. The properties of terms are treated, not at the beginning, before the statements of which they are parts, but in chapter 5 after the discussion of dialectical reasoning and before the catalog of fallacies! Peter of Spain follows the same order in his *Summulae logicales* and sandwiches the properties of terms between the material of the *Topics* and that of the *Sophistical Refutations*.[163] Within the chapter itself, Sherwood first defines 'supposition' and lays out the division between material and formal, simple and personal supposition, offering characterizations for subdivisions under the last two.[164] He then turns to rules having to do with supposition, and offers first the identification rule

> Rule I...every distributive sign confuses the term immediately adjoining it confusedly...
>
> ...an affirmative [distributive] sign confuses the remote term merely confusedly...
>
> ...a negative [distributive] sign confuses the remote term confusedly and distributively,[165]

163. Boehner finds this arrangement "peculiar and hardly understandable"; he expected "the *Tractatus de suppositionibus* after the tract on Fallacies" since he views it as a medieval addendum to an Aristotelian syllabus (*Medieval Logic*, (Manchester, 1966), chap.3, 78–79) and sees Ockham's integration of the discussion of supposition into the properties of terms as an advance (82). On my hypothesis, the actual arrangement of Sherwood and Peter of Spain has a rationale.

164. Sec.2–12, 107–117.

165. Sec.13, 117.

and then four to regulate inferences from general terms with one sort of personal supposition to the same term with another sort:

> Rule II: An argument from merely confused to distributive confused supposition does not follow...
>
> Rule III: An argument from many cases of determinate supposition to one of determinate supposition does not follow, but [only] to one of confused supposition...
>
> Rule IV: An argument from determinate supposition to distributive confused supposition does follow, but not from merely confused supposition...
>
> Rule V: An argument from determinate supposition to distributive confused supposition does follow, but not from merely confused supposition...[166]

It is as if Sherwood's principal interest is in the move from a general term embedded in one context of quantifiers and/or negations to the same general term embedded in a different context of quantifiers and/or negations. He thought that to map the latter, as he partially does in Rules II–V, it would be necessary to determine the relation between a general term embedded in one context of quantifiers and/or negations and expansions of singulars. His characterizations of types of common personal supposition, together with Rule I were meant to accomplish that task.

Although it is not so obvious from the table of contents, I suggest that Ockham's own interest in the divisions of supposition generally, and not just of the divisions of common personal supposition in particular, lies in their utility for labelling fallacies—especially of equivocation, figure of speech, and the consequent. Having made the original tripartite division among the sorts of things a term can stand for in material, simple, and personal supposition, respectively, Ockham identifies a third type of equivocation, which occurs when a term is used with one supposition in one part of the argument and another in

166. Sec.13.2–13.5, 118–19.

another part. What amounts for Ockham, to slippage between use and mention "occurs frequently in the various sciences and deceives many."[167] It is to aid in identifying such fallacies that Ockham offers identification rules for when a proposition can have material and simple supposition, respectively.[168] Ockham tries to dissolve the Liar Paradox in terms of an equivocation of this sort.[169] And he repeatedly notes how certain sorts of inference rules will hold good only if the terms are taken to have personal supposition throughout.[170] Similarly, for equivocations in supposition produced by past or future tense verbs or modal operations.[171] Finally, he turns his attention to fallacies that result when one moves from a general term with one type of common personal supposition to the same general term with another type. Not every such transition is fallacious; for example,

(R29) The inference from a term with Determinate Supposition to a term with Merely Confused Supposition (with no variation made in the other terms) is a good inference,

"because"—by (C7d)—"it is possible to ascend to the term with Merely Confused Supposition" from the singular and hence from the indefinite or particular proposition whose subject term has, by (R16), Determinate Supposition.[172] But some involve a

167. *Expos. Elench.* I, c.2, sec.9, (OPh III, 24–27); *Summa logicae* III–4, c.4, (OPh I, 759–763).

168. (R3) and (R6) in *ibid.*, (OPh 1, 760–61); *Expos. Elench.* 1, c.2, sec9, (OPh III, 26).

169. *Summa logicae* III–3, c.46, (OPh I, 744–46); *Expos. Elench.* II, c.10, sec.5, (OPh III, 268).

170. *Summa logicae* III–3, c.2, (OPh I, 593, 595); c.6, (OPh I, 601–606, 608); c.9, (OPh I, 630); c.13, (OPh I, 642).

171. See chapter 11 below; *Summa logicae* III–4, c.4, (OPh I, 762–63); II, c.22, (OPh I, 321–25); *Expos. Elench.* I, c.2, sec.9, (OPh III, 28–29); II, c.7, sec.2, (OPh III, 190).

172. *Summa logicae* III–4, c.12, (OPh I, 828).

fallacy of figure of speech (one arising from similarity of expressions):[173]

(R30) In general, when a term has Merely confused Supposition in the antecedent of any enthymeme and Determinate Supposition in the consequent, there is a fallacy of figure of speech,

as in 'For any part of the continuum, some part is less; therefore some part is less than any part of the continuum'.[174] Again,

(R31) The argument from a term with Determinate or Merely Confused Supposition to a term with Confused and Distributive Supposition commits a fallacy of figure of speech,

as in 'Every man is risible; therefore every man is every risible' and 'Socrates is not every man; therefore every man is not Socrates'.[175] (R31) follows from the various characterization rules. (C7a–b) makes it characteristic of Merely Confused Supposition that the descent definitive of Confused and Distributive Supposition (C8a–bi) is impossible. Likewise, by (C8c), the singular cannot yield the general term in Confused and Distributive Supposition. Since the singular entails the indefinite or particular proposition whose subject term has, by (R16), Determinate Supposition, it follows that the general term in Determinate Supposition cannot yield that in Confused and Distributive Supposition either. It is not generally true either that one singular or an exhaustive disjunction of them implies an exhaustive conjunction of the same. Similarly, for the fallacy of the consequent, which arises when the antecedent is believed to follow from the consequent the way the consequent follows from the antecedent:[176]

173. *Ibid.*, c.10, (OPh I, 792).

174. *Ibid.*, (OPh I, 799); *Expos. Elench.* II, c.7, sec.2, (OPh III, 190–91).

175. *Summa logicae* III–4, c.10, (OPh I, 800); *Expos. Elench.* II, c.7, sec.2, (OPh III, 191–92).

176. *Summa logicae* III–4, c.12, (OPh I, 826).

(R32) The argument from a term with Merely Confused Supposition to the same term with Determinate Supposition (with no variation made in the other terms) commits a fallacy of the consequent,

as in 'Every man is an animal; therefore an animal is every man',[177] where by (R29) the reverse move—'An animal is every man; therefore every man is an animal'—holds. Likewise,

(R33) The argument from a term with Determinate or Merely Confused Supposition to a term with Confused and Distributive Supposition commits a fallacy of the consequent.[178]

I conclude that the divisions of common personal supposition are not the means to the end of giving a contextual definition of quantifiers nor for stating the truth conditions for propositions containing quantified general terms. Rather the divisions of supposition generally were marshalled into service for the task of identifying fallacies. In Ockham's hands, the two parts of Supposition Theory are not disjointed the way a use/mention distinction and a theory of quantification are, but are united under the rubric "aspects of the way words stand in propositions for things, useful in fallacy detection." Thus, he employs the principal tripartite division to locate equivocations between use (personal supposition) and mention (material and simple supposition), which he thought were plentiful in metaphysics and theology. (R30) and (R32) fix on a fallacy like our notorious quantifier-interchange—the illicit move from '(x) (Ey) Rxy' to '(Ey) (x) Rxy'—while (R31) and (R33) note that neither of the two forms of existential generalization recognized by the theory (Determinate or Merely Confused Supposition) yields a universal generalization. Even the greatest philosophers are occasionally caught in such mistakes. It is small wonder if medieval logicians found some way to point them out.

177. *Ibid.*, (OPh I, 828).
178. *Ibid.*, (OPh I, 829).

# 11

# The Logic of Propositions

Having examined the divisions and properties of terms, Ockham has the tools to deal with the next larger unit of logical interest, the proposition. Procedurally, Ockham informs us,

> it is necessary first to lay down some divisions; second, to see what is necessary and sufficient for the truth of propositions; and third, to treat some aspects of the conversion of propositions.[1]

In the *Summa logicae*, Ockham never gives a general definition of 'proposition', but makes clear what linguistic units count as such by cataloging and describing their kinds. The principal division is between categorical propositions, which "have a subject, a predicate, and a copula and do not include many propositions," and molecular propositions, which "are composed of many categorical propositions."[2] The latter category subdivides into six types—conjunctions, disjunctions, conditional, causal, temporal, and local propositions, depending on the connective that joins the categoricals together.[3]

Ockham's characterization of categorical propositions analyzes them into three principal parts: the subject, which is "the part of the proposition that comes before the copula and of which something is predicated";[4] the predicate, which is "the part of the proposition that follows the copula";[5] and the copula, which is "the verb that joins the predicate to the subject."[6] Features of these components indicate further

1. *Summa logicae* II, c.1, (OPh I, 240–41).
2. *Ibid.*, (OPh I, 241).
3. *Ibid.*; also, c.30–36, (OPh I, 345–354).
4. *Ibid.* I, c.30, (OPh I, 92).
5. *Ibid.*, c.31, (OPh I, 93).
6. *Ibid.*, (OPh I, 94).

breakdowns in the division of categorical propositions. For example, the categorematic terms that occupy the subject or predicate position may be of the *nominative* or of an *oblique* case (e.g., 'A man is an animal' and 'A man's is an animal').[7] Again, the copula that joins them may be of the past, present, or future *tense*; and it may be assertoric (e.g., 'is') or *modal* (e.g., 'can be'). Again, a categorical proposition may be modal because a mode (e.g., 'necessary', 'possible', 'contingent', or 'impossible') occurs as its subject or predicate.[8] Further classifications arise from other components which may be added or omitted. For example, categorical propositions with an assertoric copula may turn modal with the addition of an adverbial modifier (e.g., 'necessarily', 'impossibly', 'contingently', or 'possibly'). Again, categorical propositions vary as to *quality* (affirmative or negative), depending on whether or not a negation sign is added (e.g., '*A* is *B* ' or '*A* is not *B* ').[9] And they differ as to *quantity*, depending on whether the subject term is singular or general, whether or not a quanitifer is added, which quantifer it is, and where it is put in the proposition. When no quantifier is added and the subject is a singular term, the proposition is a singular proposition; where a general term, an indefinite proposition equivalent to a particular proposition to whose subject term a sign of particularity has been added (i.e., '*A* is *B* ' is equivalent to 'Some *A* is *B* '; '*A* is not *B* ' to 'Some *A* is not *B*').[10] Again, some categorical propositions are not *equivalent to molecular propositions* (e.g. affirmative existentials such as 'God exists' and predications to which no sign has been added and whose categorematic terms are absolute such as 'A man is an animal'), while others are. Thus, any categorical whose subject or predicate is a connotative term is equivalent to a molecular proposition.[11] Others are equivalent to molecular propositions because of the addition of an exclusion sign (e.g., 'Only *B* is *A*')

7. *Ibid.* II, c.2, (OPh I, 249).
8. *Ibid.*, c.1, (OPh I, 242).
9. *Ibid.*, (OPh I, 244).
10. *Ibid.*
11. *Ibid.*, c.11, (OPh I, 279).

or an exceptive clause ('Every *A* but this *A* is *B*') or a reduplicative clause ('*A* qua *A* is *B*').[12]

After identifying various types of propositions, Ockham makes it his first business to state truth conditions for them. Beginning with the easiest sorts—viz., present tense assertoric propositions that are not equivalent to molecular propositions and that have both subject and predicate in the nominative case[13]—Ockham extends his account to past and future tense propositions[14] and modal propositions.[15] He then turns to standard types of categorical propositions that *are* equivalent to molecular propositions and shows how the former can be expounded in terms of categorical propositions whose truth conditions have already been discussed. These expositions also facilitate the second major part of Ockham's project in *Summa logicae* II—that of mapping conversion relations. Ockham closes with a discussion of truth conditions, equivalences, and inference rules for the principal types of molecular propositions.

Metaphysical considerations lie behind the first and fundamental parts of Ockham's enterprise. I shall first set out his account of truth conditions for present tense assertoric propositions, contrasting them with some alternative proposals. His extension of it to past tense, future tense, and modal propositions brings us face to face with the question of whether he accepted an ontological commitment to merely past, merely future, or merely possible entities; and I shall examine this issue at some length. Ockham's expositions of standard types of categoricals equivalent to molecular propositions and his chart of conversion relations will be dealt with more briefly, and his treatment of molecular propositions will conclude the chapter.

## 1. TRUTH CONDITIONS FOR THE "EASIEST" CASES

Focussing on present tense assertoric propositions whose

12. *Ibid.*, c.1, (OPh I, 243).
13. *Ibid.*, c.2–6.
14. *Ibid.*, c.7.
15. *Ibid.*, c.9–10.

categorematic terms are both in the nominative case and which are not equivalent to molecular propositions, Ockham divides them as to quantity and quality and offers truth conditions for a number of principal types. (1.1) *Singular Propositions*. Under what circumstances are propositions such as 'Socrates is a man' and 'He is an angel' true? Ockham rejects the views that

> (T1) It is necessary for the truth of a singular proposition that is not equivalent to a molecular proposition that its subject and predicate be really the same,[16]

or, put schematically, where singular terms substitute for '*N*' and absolute terms for '*P*',

> (T1′) '*N* is *P*' is true only if '*N*' and '*P*' are really the same;

and

> (T2) It is necessary for the truth of a singular proposition that is not equivalent to a molecular proposition that the predicate really inhere in the subject,[17]

or, put schematically,

> (T2′) '*N* is *P*' is true only if '*P*' really inheres in '*N*'.

Why does Ockham even bring up (T1) and (T2), when (T1′) and (T2′) make their conflation of use and mention so flagrant? A partial answer is that a tradition going back to Porphyry and Boethius used the terms 'subject' and 'predicate' ambiguously for linguistic units, on the one hand, and for really existent subjects of inherence and inherent properties, on the other.[18]

16. *Ibid.*, c.2, (OPh I, 249).
17. *Ibid.*
18. As Ockham notes, *Expos. Praedicam.*, c.8, (OPh II, 170).

Traces of this conflation can be found in Ockham's own objective-existence theory, according to which mental propositions are compounded out of objectively existent objects of thought (see Part One, chapter 3 above). Corresponding to the conventional proposition 'God is a being', there may be in the mind of the Blessed a mental proposition whose subject and predicate term alike are the divine essence itself. And where I have an intuitive cognition of Socrates and his whiteness, I may form the mental proposition 'Socrates is white (i.e., a haver of whiteness)' in which the objectively existent Socrates is the subject and the predicate includes the objectively existent whiteness that really inheres in him (see Part Three, chapter 13 below). When Ockham abandoned the objective-existence theory in favor of the mental-quality theory, however, he gave up the idea that the real things the proposition is about (except where the subject term is a mental quality that signifies itself) could be the subjects or predicates of mental propositions.

Even where such use/mention confusions are avoided, however, it is tempting to propose that

> (T3) A singular proposition that is not equivalent to a molecular proposition is true if and only if what the predicate signifies is had by or inheres in what the subject signifies,

or, put schematically,

> (T3′) *N* is *P* if and only if *N* has *P*-ness or *P*-ness inheres in *N*

For example, 'Socrates is a man' is true, if and only if Socrates has humanity or humanity inheres in Socrates. The object-language equivalence in (T3′) is compatible with a variety of semantic analyses of propositions of the form '*N* is *P*', however. (i) One could hold that in such propositions '*N*' supposits for the particular it names while '*P*' supposits for the really existent property *P*-ness, and 'is' stands for a real relation between them. (ii) Or one could say that both '*N*' and '*P*' sup-

posit for particulars, but '*P*' supposits for particulars only by virtue of the inherence of *P*-ness in them. (iii) Or one could claim with Frege that it is not '*P*' but 'is *P*' that is the predicate in '*N* is *P*', and insist that 'is *P*' does not function to supposit for anything but to characterize what the subject '*N*' supposits for. Hints of each view can be found in medieval authors, especially those who were realists about universals. For Peter of Spain held that 'animal' has simple supposition for animal nature in 'Every man is an animal', and thought that natures were individuated by the matter in which they inhered.[19] Burleigh insisted that it supposited for particulars, but only for those that fell under the universal.[20] Again, taking off from Aristotle's discussion in the *Perihermenias*, William of Sherwood offered a two part analysis of categorical propositions into the noun and the verb:

> The integral parts of the statement are, therefore, the subject and the predicate. The subject is what the discourse is about. The predicate, however, is what is proclaimed or predicated about something other than itself. For example, in 'Socrates runs' the term 'Socrates' is the subject, because the discourse is about him, and the predicate is 'runs', because it is said about something other than itself.[21]

As we shall see, Ockham would be sympathetic to (T3) where connotative terms substituted for '*P*'. But accepting (T3) as a general analysis of singular propositions would be tantamount to regarding all general terms as connotative, whereas he has metaphysical reasons for insisting that substance terms are absolute terms. (T3′) fails for 'Socrates is a man' because the latter is true when 'Socrates has humanity' or 'Humanity exists in Socrates' is false. For either 'humanity' would stand for something extrinsic to Socrates, for Socrates himself, or for one of his parts. But Socrates does not have and is not in himself.

19. *Summulae logicales*, Tractatus suppositionum, (Mullally ed., 8–12, 18).

20. *De puritate artis logicae*, Tractatus primus, De proprietatibus terminorum, c.4, (Boehner ed., 19–21).

21. *Introduction to Logic*, chap.1, sec.11, (Kretzmann trans., 26).

Contrary to the Platonists, nothing extrinsic to Socrates is his humanity. And against the moderate realists, it is wrong to think of Socrates as composed of parts one of which is his humanity and the other some thisness or individuating principle (see Part One, chapter 2 above). Even if humanity is thought of as a particular thing (see Part One, chapter 5 above), it is not one part of Socrates as distinct from others.[22] Thus, Ockham rejects (i) and (ii) on metaphysical grounds. As the quotation from Sherwood makes clear, the plausibility of Aristotle's analysis arises from examples such as 'Socrates runs' that have verbs other than the copula. Noticing such cases, Ockham writes in his own *Perihermenias*-commentary that

> every categorical statement includes a subject, a predicate, and a copula, or there is a verb equivalent to the predicate and the copula —which has to be added because of propositions such as 'A man runs', 'Socrates disputes', etc.[23]

thereby suggesting that 'A man is a runner' and 'Socrates is a disputer' would be more canonical—contrary to his own preference for verbs over the copula plus participle in the mental language (see Part One, chapter 3 above). Burleigh notes how existential propositions such as 'God exists' can be reduced to Ockham's canonical tripartite form the same way, yielding 'God is a being'.[24] And although Ockham does not comment on this point explicitly, there is no reason to suppose that he would disagree. Hence, dismissing (iii) on semantical grounds, Ockham proposes

(T4) A singular proposition that is not equivalent to a molecular proposition is true if and only if its subject and predicate supposit for the same thing.[25]

or, put schematically,

22. *Summa logicae* II, c.2, (OPh I, 250–54); cf. I, c.7, (OPh I, 23–29).
23. I, c.4, sec.7, (OPh II, 396).
24. *Op. cit.*, Tertia pars, (Boehner ed., 54).
25. *Summa logicae* II, c.2, (OPh I, 250).

(T4') '*N* is *P*' is true if and only if there is something for which '*N*' and '*P*' both supposit in the proposition '*N* is *P*'.

So 'Socrates is a man' is true because there is something for which 'Socrates' and 'man' both supposit in that proposition—viz., Socrates.

(1.2) ***Indefinite, Particular, and Universal Present Tense Propositions.*** If the subject of a categorical proposition is a general term with personal supposition, then the proposition is indefinite, particular, or universal.[26] On one view.

(C1) An indefinite proposition is one whose subject is a general term that stands in personal supposition and is not governed by a universal or particular sign.[27]

For example, '*Homo est animal*' and '*Animal currit*' (literally, 'Man is animal' and 'Animal runs'; there are no articles in Latin). But

(C2) A particular proposition is one whose subject is a general term governed by a particular sign.

For example, 'Some man runs', 'A certain man runs', etc. Given (C1) and (C2), it follows that indefinite and particular propositions always convert—e.g., 'Man runs' with 'Some man runs', 'Animal is man' with 'Some animal is man', 'Animal is not man' with 'Some animal is not man'.[28] Ockham then stipulates that

26. For Ockham's stipulation that terms preceded by a particular or universal sign can have only personal supposition, see (R4) and (R6) in chapter 10 above. Ockham recognizes two opinions about propositions of the form '*A* is *B*'. One could hold that they are invariably indefinite, whether the subject term has personal, material, or simple supposition; or that they are indefinite only where the general term has personal supposition but singular otherwise (*Summa logicae* II, c.3, (OPh I, 255–57)). Ockham does not commit himself, but I shall focus on the latter option here.

27. *Ibid.*, c.1, (OPh I, 244); c.3, (OPh I, 255–57).

28. *Ibid.*, c.3, (OPh I, 255).

(T5) It is sufficient for the truth of an indefinite or particular affirmative proposition, whose predicate is not governed by a universal sign, that there is something for which its subject and predicate both supposit,

or, put schematically,

(T5′) '(Some) *A* is *B*' is true if there is something for which '*A*' and '*B*' both supposit.[29]

On the other hand,

(T6) It is necessary for the truth of an indefinite or particular negative proposition whose predicate is not governed by a universal sign that either its subject does not supposit for anything or its subject supposits for something the predicate does not supposit for,

or, put schematically,

(T6′) '(Some) *A* is not *B*' is true only if either '*A*' does not supposit for anything or '*A*' supposits for something that '*B*' does not supposit for.[30]

Although Ockham does not say so here, he presumably regards the right-hand side of (T5′) as necessary as well as sufficient; the right-hand side of (T6′) as sufficient as well as necessary.

Turning to universal propositions, Ockham explains that

(C3) A universal proposition is one whose subject is a general term that is governed by an affirmative or negative universal sign.

For example, 'Every man is an animal', 'No man is an animal', 'Each of them runs', etc.[31] After classifying various universal

29. *Ibid.*
30. *Ibid.*, (OPh I, 255–56).
31. *Ibid.*, c.1, (OPh I, 244).

signs as to what they distribute, Ockham focuses on those such as 'every' and 'no' that can function indifferently to distribute substances and/or accidents, individuals or their integral parts, and rejects

(T7) It is necessary for the truth of a universal affirmative proposition that its subject and predicate be really the same,

for reasons discussed above in connection with (T1) and (T2), but maintains

(T8) It is necessary for the truth of a universal affirmative proposition that its predicate supposits for everything its subject supposits for,

or, put schematically,

(T8′) 'Every *A* is *B*' is true only if '*B*' supposits for everything that '*A*' supposits for.

Ockham adds, "if this is so, the universal proposition is true unless this is prevented by some special cause," which he does not identify.[32] The most likely candidate would be an empty subject term, since 'Every man is an animal' is false when there are no men. If this is what Ockham had in mind, he would be seen as endorsing

(T9) 'Every *A* is B' is true if and only if (i) '*A*' supposits for something and (ii) '*B*' supposits for everything that '*A*' supposits for.

Ockham neglects to comment on *E*-propositions, but judging from the fact that they are contradictory to *I*-propositions, and assuming he regards the conditional in (T5′) as reversible, we may supply

32. *Ibid.*, c.4, (OPh I, 260).

(T10) 'No *A* is *B* ' is true if and only if either (i) '*A*' does not supposit for anything, or (ii) '*B* ' does not supposit for anything, or (iii) '*B* ' does not supposit for anything that '*A*' supposits for,

on his behalf.

(1.3) *A Charge of Circularity.* So far, then, in handling the "easiest" cases, Ockham does seem to advance a "two-name" theory of predication,[33] and to account for the truth of singular, indefinite, particular, and universal propositions in terms of whether or not their subjects and predicates supposit for anything and whether or not for some or all of the same things. This approach lay open to objection and misunderstanding from the beginning, however. Thus, Peter of Ailly, writing against some logicians of the next generation, contends

> The second conclusion: *A sentence is not true or false because its subject and predicate supposit for the same, or because they do not supposit for the same, whether it is an affirmative or a negative sentence.*
>
> *Proof*: Those who define a true or false sentence in terms of supposing or not supposing for the same...also give the definition of supposition in which it is said that [supposition] is the taking of a term in a sentence for its significate or significates, of which the term is verified by means of the copula of the sentence in which it occurs. Thus, they define supposition in terms of verification or in terms of a sentence. They should not, therefore, define the verification of a sentence conversely in terms of supposition or of supposing or not supposing for the same. For circularity should not occur in the case of definitions. Neither should the same thing be defined by the same...[34]

In advancing

(E2) A term '*T* ' has personal supposition for *x* in *p*, if and only if '*T* ' occurs in *p* and 'This is *T* ' (where 'this' indicates *x*) is true

33. A theory much reviled by Peter T. Geach, who writes from a Fregean bias, in *Reference and Generality*, (Ithaca, NY, 1962), chap.2, sec.28, 34–36.

34. *Concepts and Insolubles*, trans. Paul Vincent Spade, (Dordrecht, 1980), 45–46.

(see chapter 10 above), along with (T4), (T5), (T6), and (T8), is not Ockham following into the same fallacy?

The answer is that he is not.[35] For he does not intend (E2) as a *definition* of 'supposition' or even of 'personal supposition' Nor does he regard (T4), (T5), (T6), and (T8) as *definitions* of truth. Rather Ockham's closest approach to defining 'truth' comes in the following remark from his *Categories*-commentary:

> ...an expression is said to be true, because it signifies things to be as they are in reality. Therefore, an expression is said to be first true and afterwards false without any change in the expression itself, because it first signifies things as they are in reality and then—because things change—signifies things as they are not in reality...[36]

And even here, Ockham's focus is on metaphysics rather than semantics. He is trying to refute the view that truth and falsity are things really distinct from and inhering in the proposition, and defend his own view that 'truth' and 'falsity', like 'true' and 'false', are connotative terms that signify the proposition directly and connote that it signifies things to be as they are or are not, respectively. Ockham does not anticipate his successor's interest in refining this formulation of the correspondence theory of truth in the face of various objections, whether pedantic or formidable, the most notable of the latter being the semantic paradoxes.[37]

With Ailly's objection thus deflected, another rises in its place. For if Ockham intended his remarks in the above quoted

35. I used the above objection and some of the following arguments in my article, "What Does Ockham Mean by 'Supposition'?" *Notre Dame Journal of Formal Logic* XVII (1976): 375–391, where I was concerned to argue that equivalences like (E2) did not constitute a definition of 'supposition', 'personal supposition', or any other kind. Freddoso considers this question with particular attention to the issue of what (T4), (T5), (T6), (T8) or the like are intended by Ockham to do ("Ockham's Theory of Truth Conditions" in *Ockham's Theory of Propositions*, 15–16).

36. C.9, sec.13, (OPh II, 201).

37. See Paul of Venice, *Logica magna*, Part II, Tractatus de veritate et falsitate propositionis, (Del Punta and Adams ed. and trans., 4–77).

passage to suggest his nominal definitions of 'true' and 'false', respectively, he must have seen (T4), (T5), (T6), and (T8) as criteria by means of which we can come to know whether quantified categorical propositions are true or false.[38] But they can serve this function only if the propositions on the right-hand side are epistemologically prior to the propositions on the left. To test whether this is so, consider the proposition 'Socrates is a man'. (T4) tells us it is true, if and only if 'Socrates' and 'man' supposit for the same thing. But (E2) tells us that 'man' supposits for Socrates in the proposition 'Socrates is a man' if and only if the proposition 'This is a man' (where 'this' indicates Socrates) is true. And it seems doubtful whether knowledge of the latter (T4) is to be a viable criterion of truth.

The reply here is that Ockham does not regard (T4), (T5), (T6), and (T8) as criteria either. Rather at the outset of *Summa logicae* II, Ockham sets himself the more manageable task of discovering what is necessary and sufficient for the truth of propositions. This objective will be met if he identifies true biconditionals. (We have seen that in practice he is not always careful to claim that the conditionals are reversible.) He need not maintain that the right-hand side defines or is epistemologically prior to the left. Hence, niether charge of circulairty vitiates Ockham's intent.

It is worth noting that while Ockham offers all of (T4), (T5), (T6), (T8), and (T9) under the rubric of considering categorical propositions not equivalent to molecular propositions, he in fact thinks that the conditionals hold for a wider range of cases—viz., not only for categorical propositions whose subject and predicate are both absolute terms, but for those whose subject and/or predicate are connotative as well. Thus, in discussing indefinite and particular propositions, he mentions not only 'Man is animal', but also 'White man is animal', 'Man runs', and

38. Freddoso notes this construal of the conditionals. I advanced epistemological considerations as reasons for thinking (E2) not a *definition* of 'supposition'; I did not consider the separate hypothesis that (T4), (T5), (T6), and (T8) are not definitions but criteria (*op. cit.*, 15–16).

'God begets God'.[39] Likewise, for universals, he cites 'Every man is risible'.[40]

## 2. TENSE AND TRUTH CONDITIONS

So far, Ockham has given truth conditions for quantified categorical propositions in terms of whether the subject and predicate do or do not supposit for all or some of the same things. What affects the supposition of subject and predicate terms in a proposition will vary its truth conditions accordingly. We have already examined in chapter 10 how a term's supposition is a function of various features of its propositional context—viz., the categorematic term with which it is matched and its relation to quantifiers or negation signs in the proposition. It is now time to map the effect that the tense and mode of the verb have on supposition and hence the truth conditions of such categorical propositions.

Ockham's initial discussion of personal supposition focuses exclusively on present tense propositions in which a term stands for its presently existing significata (those that are its significata in the first and narrower of Ockham's preferred senses in *Summa logicae* I, c.33, (OPh I, 95); cf. chapter 10 section 2 above). Then, facing the question of 'How terms supposit in past and future tense propositions, in propositions of possibility and other modal propositions,' he replies that

> ...the terms supposit personally in all such propositions. In connection with this, it should be understood that a term supposits personally when it supposits for its significata, or for those which were its significata or for those that will be or those that can be. This is the way my earlier claim should be understood, since it was said earlier that this was one way to take 'signify'...[41]

Where 'signify' is taken in the broader of Ockham's preferred

39. *Summa logicae* II, c.3, (OPh I, 255–56).
40. *Ibid.*, (OPh I, 258).
41. *Ibid.* I, c.72, (OPh I, 215).

senses, the significata of the term '*F*' may sort themselves into several groups—those that are *F*'s, those that were *F*'s, those that will be *F*'s, and those that can be *F*'s. And hence

(C5) Generally speaking, a term has personal supposition when it supposits for its own significata[42]

allows '*F*' to have personal supposition for any of these. But not in any context whatever. Rather

(R1) A term can have personal supposition for its presently existing significata (if any) in any proposition in which it occurs as subject, no matter what its tense or mode;[43]

but

(R2) A subject term "can supposit for *those that were* its significata only in relation to a verb about the past" or its equivalent

and

(R3) A subject term "can supposit for *those that will be* only in relation to a verb about the future" or its equivalent

and

(R4) A subject term "can supposit for *those that can be* and are not its significata only in relation to a verb of possibility or contingency" or its equivalent.[44]

Given these rules, Ockham concludes that tensed and modal propositions are equivocal in the third way:

(R5) ...when a common term has personal supposition and is

42. *Ibid.*, c.64, (OPh I, 195); see chapter 10, section (3.1.2) above.
43. *Ibid.*, c.72, (OPh I, 215).
44. *Ibid.*, (OPh I, 216).

subject in relation to a verb about the past, the proposition should be distinguished because of the fact that the subject term can supposit for those that are or for *those that were*...

(R6) ...when a common term supposits personally and is subject in relation to a verb about the future, the proposition should be distinguished according to the third mode of equivocation, because the subject can supposit for those that are or for *those that will be*.

(R7) ...when a common term supposits personally and is subject in relation to a verb of possibility or contingency, the proposition should be distinguished because the subject term can stand for those that are or for *those that can be* or for *those that can be and can not be*...,[45]

depending upon whether the subject-term is taken to fall inside or outside the scope of the tense or mode. "But this distinction does not arise in connection with the predicate," which is unequivocally governed by it.[46]

Difficulties arise over these rules and their interpretation, however. (2.1) *The Rule of Three.* It follows from (R1)–(R4) that the subject term of a present tense proposition that is not equivalent to a past tense, future tense, or modal proposition can supposit only for its presently existing significata. Straightforward as this suggestion seems, however, it was not universally accepted among Ockham's predecessors. For example, William of Sherwood proposes the alternative rule

(R8) An unrestricted common term that has sufficient appellata and supposita in connection with a present tense verb that has no ampliating force supposits only for those things subordinate to it that do exist.[47]

45. *Ibid.* III–4, c.4, (OPh I, 762–63).
46. *Ibid.* I, c.72, (OPh I, 216).
47. *Op. cit.*, chap.5, sec.16.1, (Kretzmann trans., 123–24).

Sherwood cautions that "sufficient appellata amount to at least three: therefore if there are not that many appellata a term can supposit for something that does not exist."[48] Therefore, where there are fewer than three men,

> 'every man exists' is false and its contradictory 'some man does not exist' is true. Therefore a man does not exist. But nonexistence is not predicated of something that exists; therefore 'man' supposits for something that does not exist.[49]

Again, where there are fewer than three men, "this does not follow: 'every animal exists; therefore every man exists' because the term 'animal' does have sufficient appellata"—say because one horse, one cow, and one man exists—"and so supposits only for what exists, while 'man' does not"— because only one man exists—"and so supposits for something that does not exist."[50] Likewise Sherwood rejects the inference 'every animal is; every man is an animal; therefore every man is', as involving an equivocation on the verb 'is'. In the first premiss and the conclusion, he says, it signifies actual existence (*esse actuale*), but in the second premiss relational being (*esse habituale*).[51]

Ockham has no sympathy and little patience with this position, dismissing its suggestions as "frivolous" and its adherents as "incapable of perceiving any truth."[52] He insists that where there are singulars, a universal proposition is true whenever all of its singulars are true—a condition that can be satisfied if there is at least one singular. Thus, where there is only one angel and no man 'Every intelligent creature is an angel' is true, and so is 'Every man is white' where there are only two men and each is white.[53] As for the suggestion that where there are only two men—say Socrates and Plato—'Every man exists' is false and

48. *Ibid.*, sec.16.2, 124.
49. *Ibid.*, 125.
50. *Ibid.*
51. *Ibid.*, 125–26.
52. *Summa logicae* II, c.4, (OPh I, 263).
53. *Ibid.*, (OPh I, 260–61).

'Some man does not exist' is true, Ockham denies it, saying that the latter has no true singulars—evidently because 'Socrates does not exist' and 'Plato does not exist' are both false.

Defenders of the Rule of Three would say that Ockham is begging the question. They have insisted that where there are only two men, 'man' supposits for something besides presently existing things, and hence that 'Some man does not exist' has singulars besides 'Socrates exists' and 'Plato exists'—say, 'The Antichrist exists'—which are false. Similarly, they diagnose a fallacy of equivocation between actual and relational being where some of the categorematic terms in a syllogism have fewer than three actually existing significata.

Ockham's fundamental objection to the Rule of Three is that it makes it impossible to give purely formal criteria for valid inferences. Aristotle, he takes it, was out to identify argument forms that held good no matter what categorematic terms they contained; a fortiori, no matter whether their categorematic terms were empty, monoreferential, or polyreferential. Chief among such forms are 'Every *B* is *C*; every *A* is *B*; therefore Every *A* is *C* ' and 'Every *A* is; every *B* is *A*; therefore every *B* is'.[54] By making the validity of such inferences depend on whether or not terms substituted for '*A*' and '*B* ' have three presently existing significata, Sherwood and company abort this whole project.

(2.2) *Tense, Modes, and Ontological Commitment.* A second difficulty arises over the interpretation of the italicized phrases of (R2)–(R7). On the face of it, Ockham appears to be operating with a universe of discourse that includes whatever the term can supposit for in some context or other; and the universe of discourse includes those that are, those that were, those that will be, and those that can be. Thus, on the first reading licensed by the rules, 'Some *A* was (will be, can be) *B* ' appears to say of some presently existing thing that it was (will be, can be) *B*; while on the second of some (merely) past (future, possible) thing that it was (will be, can be) *B*. Yet, this interpretation

54. *Ibid.*, (OPh I, 263).

seems to commit Ockham to a more generous ontology than one might have expected of him. Recall that for Quine, a theory has an ontological committment to those entities that must be taken to be values of the variables if the theory is to be true; and a philosopher has an ontological commitment to those entities if he accepts the theory. The natural way to map this notion onto Ockham's logic is to say that a theory has an ontological commitment to entities of a certain sort if, in order for the theory to be true, a term must be taken to supposit or stand for such entities in a proposition included in the theory. On the above construal, Ockham is allowing subject terms to supposit for non-present temporalia in past and future tense propositions; for unactualized possibles in propositions of possibility. Given the proposed criterion, he will accept an ontological commitment to non-present temporalia and unactualized possibles if he admits any such propositions to be true on the relevant readings.[55] Does the evidence really require us to see Ockham as that ontologically permissive?

The textual picture is complicated. I shall first consider some difficulties with the first interpretation and then assess alternative readings. (2.2.1) *Objections to a Wider Ontological Commitment.* Evidence can be brought that an ontological commitment to non-present temporalia and unactualized possibles is incompatible with the rest of Ockham's philosophy and theology. I reserve detailed discussion of the latter for Part Five, chapters 24–26 below, where I shall argue that the wider ontological commitment need not bring additional difficulties to his position. For now it is important to evaluate two pieces of evidence that he actually rejected it on philosophical grounds.

(a) First, it seems that an ontological commitment to non-pres-

55. I interpreted Ockham this way in my articles "Ockham's Nominalism and Unreal Entities," *Philosophical Review* LXXXVI (1977): 144–176, and "Ockham's Theory of Natural Signification," *Monist* LXI (1978): 444–459. It has been rejected by Alfred J. Freddoso, "Ockham's Theory of Truth Conditions," 37ff, and Elizabeth Karger in her unpublished Ph.D. dissertation, *A Study in William of Ockham's Modal Logic*, (University of California at Berkeley, 1976). My reassessment is found below.

ent temporalia and unactualized possibles involves the notion that *there are* merely past, merely future, or merely possible entities or beings. Walter Burleigh does this boldly in the following passages from *De puritate artis logicae*:

> ...'being' can be taken three ways. One way, so that it has maximum extension and is common to all intelligibles. This way it is the adequate object of the intellect, and the inference 'This is a being; therefore this is' does not follow. The second way, it is taken for anything to which being is not prohibited. This way whatever can be is a being and this way, too, the inference 'This is a being; therefore this is' does not follow. The third way, it is taken for an actually existing being and is thus a participle derived from the verb 'is'. This third way the inference 'This is being; therefore this is' does hold...,[56]

although his added comment that being taken the second way exists in its cause seems to imply a reduction of unactualized possibles to the power to produce them.[57]

By contrast, Ockham seems to reject any such ontological commitment, reduced or otherwise. For example, in *Summa logicae* I, c.38, he writes,

> ...Similarly, being is divided into being in potency and being in act. This should not be understood to mean that something which does not actually exist but possibly exists is truly a being, and that something else which actually exists is also a being. Rather, in dividing being into potency and act in *Metaphysics* V, Aristotle meant that the term 'being' is predicated of some term by means of the word 'is' in a proposition that is absolutely assertoric and not equivalent to a proposition of possibility, e.g., 'Socrates is a being' and 'A whiteness is a being'; but of other terms it is predicated only in a proposition of possibility, e.g., 'The Antichrist is possibly a being' or 'The Antichrist is a being in potency'. Hence in the passage in question he wants to say that 'being', like 'knowing' and 'resting' is predicable both potentially and actually— and yet nothing knows or rests unless it actually knows or rests.[58]

And in *Summa logicae* III-1, c.31, Ockham says that "the proposition 'Every being exists in act' is necessary."[59] As for temporalia, Ockham notoriously argues with Aristotle that no

56. Tertia pars, 59.
57. *Ibid.*
58. (●Ph I, 108).
59. (OPh I, 442).

part of time exists, because neither the past nor the future exists; instead they are pure nothing (see Part Four, chapter 20 below). But if Ockham would say about non-present temporalia what he says about time, he would be committed to the thesis that they are purely nothing as well. This projection seems confirmed by his remark in *Summa logicae* I, c.59, that although 'The Antichrist will exist before Judgment Day' is true now, nevertheless, the Antichrist "is nothing."[60] If Ockham had an ontological commitment to merely future entities, he would surely not say that the Antichrist is nothing and hence presumably neither a primitive item in his ontology nor reducible to any.[61]

(R2.2.1a) If a philosopher's ontological commitment is to be measured in terms of what *beings* or *entities* he says there *are*, as the above adaptation of the Quinean criterion suggests, Ockham will have to be seen as rejecting one in the above cited passages. But his remarks seem less than decisive in view of his adherence to the Aristotelian thesis that verbs connote time and hence cannot be tenseless. 'Is' and 'exists' are present tense verbs, so that to say that $x$ is or exists is to imply that $x$ is or exists in the present. If 'being' or 'entity' or 'existent' are nouns deriving from such present tense verbs, Ockham will take them to signify only presently existing things. When he says in the *Summa logicae* and in his *Physics*-commentaries that the parts of time—the past and the future—do not exist (present tense), he may simply be asserting that they are not present. And he may think 'Every being exists in act' is necessary because it reduces to 'Every actually existing thing exists in act'; and 'That is a non-being' is necessarily false, because it is expounded by the obviously contradictory conjunction "That is (present tense) something and it is not (present tense) a being."[62]

60. (OPh I, 190).

61. The contrast with Burleigh is noted by Calvin Normore in his dissertation, *The Logic of Time and Modality in the Later Middle Ages: The Contribution of William of Ockham*, chap.2, 52. Freddoso makes most of this case against my earlier contention that Ockham did retain such an ontological commitment (op. *cit.*, 35–36).

62. *Summa logicae* II, c.12, 13, (OPh I, 283, 287).

When he says that the Antichrist is nothing, he may simply be claiming that it is not a presently existing entity. And when he denies that "something which does not actually exist but possibly exists is truly a being," he may be repeating what is analytically true, that an unactualized possible does not actually exist at the present.

This explanation finds support in Ockham's remarks about 'nothing' in *Ordinatio* I, d.36, q.1, which appears to have been written from the viewpoint of the mental-act theory. He distinguishes there three ways of taking the term 'nothing': (i) First, syncategorematically as a negative universal that includes the term distributed—viz., 'being'. Alternatively, 'nothing' can be taken categorematically either (ii) insofar as it "signifies what does not really exist or have any real existence," or (iii) insofar as it "is taken for what lacks not only real existence, but also in such a way that real existence is incompatible with it." Thus, he holds, impossibles such as chimeras were nothing from eternity the second way. And they were thus nothing even though they were understood by God from eternity (see Part Five, chapter 24 below). All of these claims are so noncontroversial as to be fully acceptable to the objective-existence theorist, however. For when the objective-existence theorist argues that neither chimeras nor creatures before their creation are nothing, because only being can be thought of and God thought of chimeras and creatures from eternity, he is not denying the obvious fact that chimeras are nothing in senses (i)–(iii) or that before their creation creatures are nothing in sense (ii). Instead, he is using 'being' equivocally to cover not only things that actually exist in reality in the present, but objectively existent things that cannot really exist as well (see Part One, chapters 3–4).

Thus, the fact that Ockham denies in the *Summa logicae* that unactualized possibles and non-present temporalia *are* (present tense) *beings* or *entities* does not prove that he had abandoned an ontological commitment to them. But given his restriction on the use of 'being' and 'is', some other term would have to be used to express it. Ockham does not explicitly use any, but we might draft the noun 'item' and the verb '*datur*' (is-given). We

could say that an item is-given (present tense) in the ontology even if not presently existing. And the criterion for whether or not an item is-given in the ontology would be the above stated criterion for ontological commitment.

(b) Again, one might argue that Ockham cannot have intended an ontological commitment to non-present temporalia and unactualized possibles, because this would be incompatible with his position regarding future contingencies. Peter Aureol and other alleged Aristotelians had argued that present determinate truth-value for a proposition requires that something about the way things are (present tense) or were in the past settled it that things would be in the future as the proposition signifies that they will be. Assuming that no proposition about future contingents could have its truth-value fixed in this way, they concluded that such propositions have (present tense) no determinate truth-value. Ockham maintained, on the contrary, that propositions about future contingents must have determinate truth-value in the present, since one part of every contradiction (either *p* or not-*p*) is known by God in the present and only what is true is knowable. Rejecting their thesis that present determinate truth requires that things are or were such as to settle the matter of how they will be in the future, Ockham held that it is enough if things will be in the future as the proposition signifies that they will be (see Part Five, chapter 7). Ockham's claim seems tantamount to saying that future states of affairs are not reducible to any past or present state of affairs, in such a way that the truth of propositions about the former could be settled by the latter. Is this not inconsistent with admitting merely future things into one's ontology?

(R2.2.1b) The answer to this question is "no," because it does not follow from the proposition that Ockham accepts—viz., that future states of affairs are not reducible to past or present states of affairs—that merely future things are not given in the ontology either as primitive items or as reducible to such. Since only what is possible can be past, present, or future, an ontological commitment to things that were or will be but are not, is subsumed under an ontological commitment to actual and unactualized possibles. The mere fact that things are included in

the ontology does not, by itself, settle the question of whether or how they were or will be, or which (if any) past or future states of affairs they will enter into. Thus, their mere status as items presently included in the ontology does not settle the truth value of future contingents, and is thus not inconsistent with Ockham's position on future contingents.

(2.2.2) *First Alternative Construal.* It may be argued that if the above considerations do not prove that Ockham rejected a wider ontological commitment, the italicized phrases in (R2)–(R7) do not conclusively show that he accepted one either. For Ockham does not say there that a term may supposit for those that were *simpliciter*, will be *simpliciter*, or can be *simpliciter*; but rather for those that were *F*, will be *F*, or can be *F*. And the latter phrases ambiguously pick out either those past (future, possible) things that were (will be, can be) *F*, or those presently existing things that were (will be, can be) *F*, where only the former construal involves a putative ontological commitment to non-present temporalia or unactualized possibles. Thus, when Ockham says in *Summa logicae* I, c.72 that

> assuming that no man is now white, but that there were many white men before, then the predicate in the proposition 'A man was white' cannot supposit for those that are, but only for those that were,[63]

he need not be saying that 'white' cannot supposit for those that exist now, but only for those that existed in the past. He may instead be saying of those that exist now, 'white' supposits only for those that were white in the past. Similarly for other cases.

(R2.2.2) If this were what Ockham meant, his theory would be inadequate to deal with his own examples of tensed and modal propositions. Consider 'Socrates existed' (where Socrates no longer exists), 'The Antichrist will exist', and 'The Antichrist can exist' (where the Antichrist does not exist yet). Ockham would say that no presently existing individual who is not Socrates or the Antichrist could be, have been, or be going to be Socrates or the Antichrist, respectively. Therefore, these

63. (OPh I, 218).

true statements should not be taken as asserting of some presently existing thing that it is Socrates or that it will or can be the Antichrist. Likewise, where Socrates exists no longer, 'Socrates was a man' and 'Socrates was white' should not be seen as asserting that some presently existing thing was a man or was white. For Ockham will say that these propositions are true only if their subjects and predicates supposit for the same thing, and no presently existing thing could have been Socrates. Again, 'Dinosaurs once existed' and 'Dinosaurs can exist' are true, but —so far as unaided natural reason is concerned—no presently existing thing can be or have been a dinosaur. For dinosaurs are now extinct, and whatever was, will be, or can be a dinosaur could not exist without being a dinosaur.

Again, in the introduction to his *Perihermenias*-commentary, Ockham considers the following objection to the mental-act theory's claim that the general concept 'man' is an act of understanding by which each and every man is understood, but no one man more than any other:

> ...some man is understood and one no more than another, a man who is no more than a man who can be, since [the concept] 'man' supposits for those who can be men, just as it supposits for those who are men. And those who can be men are infinitely many. Therefore, infinitely many would be understood by such an act of understanding.[64]

Ockham says that a mental-act theorist would grant the conclusion and agree that the general concept 'man' does not enable us to conceive of infinitely many particulars distinctly, while insisting that we can thereby conceive of infinitely many confusedly.[65] Even after Ockham had adopted the mental-act theory, he would have denied that infinitely many created substances actually exist in the present and held that only created substances, the divine essence, or the divine persons can be a man.[66] Hence, he would not take 'Those who can be

64. Prooemium, sec.6, (OPh II, 353).

65. *Ibid.*, (OPh II, 355).

66. For discussion of how non-human created substances, the divine essence, or the divine persons can be a man, see Part Five, chapter 22 below.

men are infinitely many' to say of actually existing things that each of infinitely many of them can be men. He must have thought it compatible with the mental-act theory that the general concept 'man' supposits for infinitely many that can exist but do not.

(2.2.3) *Another Alternative.* There are other ways to read Ockham's logic without assigning him an ontological commitment to unactualized possibles or non-present temporalia, however. If the initial interpretation says that the terms of the presently existing proposition '*A* was (will be, can be) *B*' may bear (in the present) the semantic relation of supposition to merely past (future, possible) things, and the second holds that they have semantic relations to presently existing things only, a third maintains that the truth of '*A* was (will be, can be) *B*' implies that certain semantic relations held in the past (will hold in the future, can hold) between the terms of the corresponding present tense proposition and things contemporaneous with it.[67] A closer look at what Ockham says about the predicates of past and future tense propositions and propositions of possibility positively suggests the last construal in preference to the first two. He writes,

> ...such a proposition denotes that the proposition in which the predicate itself, under its own form—i.e., that very predicate and not another—is predicated of that for which the subject supposits, or of a pronoun indicating (*demonstrante*) precisely that for which the subject supposits, was true, if such a proposition [i.e., the first mentioned one] is about the past; or will be true, if such a proposition is about the future; or is possible, if the first proposition is a proposition of possibility; ... and so on for other modal propositions...[68]

The same account of what it is for a predicate to supposit for those that were, those that will be, or those that can be is given

67. This interpretation is advocated by Freddoso, *op. cit.*, 28–43. He wants to claim both that it is a plausible reading of the text of the *Summa logicae* II, and that Ockham's logic can in any event best be reconstructed along these lines.

68. *Summa logicae* II, c.72, (OPh I, 216).

in *Summa logicae* II, chapters 7 and 10.[69] Ockham's idea can be represented schematically as follows: In propositions of the form '*A* was *B* ', '*B* ' supposits for those that were in the sense that '*A* was *B* ' denotes that 'This is *B* ' (where 'this' indicates something that '*A*' supposits for in '*A* was *B*') was true. Again, in propositions of the form '*A* will be *B* ', '*B* ' supposits for those that will be in the sense that '*A* will be *B* ' denotes that 'This is *B*' (where 'this' indicates something that '*A*' supposits for in the proposition '*A* will be *B* ') will be true. Finally, in propositions of the form '*A* can be *B* ', '*B* ' supposits for those that can be in the sense that '*A* can be *B* ' denotes that 'This is *B* ' (where 'this indicates something that '*A*' supposits for in '*A* can be *B* ') can be true. Hence the assertion that a presently existing term '*B* ' bears (present tense) the semantic relation of supposition to those that were, those that will be, or those that can be gets analyzed in terms of the past, future, or possible truth of a present tense proposition containing '*B* ' and hence ultimately in terms of the past, future, or possible obtaining of a semantic relation between simultaneously existing terms and things. Ockham almost says this in so many words in *Summa logica* I, c.72, when he remarks that in past and future tense propositions and modal proposition "terms with personal supposition supposit for those that are or were or will be or can be supposita."[70]

(R2.2.3) Two sets of difficulties arise for this interpretation, however. (a) First, the text cited in its favor still implies that a presently existing term bears (present tense) a semantic relation to non-actual things. Take the true proposition 'Socrates was white', where Socrates no longer exists. According to Ockham, 'Socrates was white' denotes that the proposition 'This is white' (where 'this' *indicates* Socrates) was true. Hence the demonstrative pronoun 'this' is said to bear the semantic relation of indicating to the merely past object, Socrates; and it is said to bear the relation in the present, since Ockham uses the present active participle '*demonstrante*'. Second, Ockham says

69. (OPh I, 269, 276).
70. (OPh I, 217).

that '*A* was (will be, can be) *B* ' denotes that the predicate supposited, will supposit, or can supposit for what the subject supposits for. But Ockham has also said that the subject may supposit for those that were, those that will be, and those that can be. When the subject is taken to supposit for merely past, merely future, or merely possible items (as it does in the proposition 'Socrates was white' or 'Some animal can be a dodo' or 'Some man will be the Antichrist') the predicate will do the same, and will once again be left with semantic relations between presently existing terms and merely past, merely future, or merely possible items.[71]

This obstacle may seem easily surmountable, however. After all, it is the *past* truth of 'This is white' that is at issue. Hence the relation of indication between 'this' and Socrates should be presumed to be past, too. Ockham should have said that 'Socrates was white' denotes that 'This is white' (where 'this' *indicated* Socrates) was true. And in at least one place he does use the perfect passive participle '*demonstrato*'.[72]

Nevertheless, Ockham's account of how the subject term functions in such propositions seems to raise the problem all over again; he writes,

> ...any proposition about the past and about the future whose subject is a common term must be distinguished with respect to the third mode of equivocation, because the subject can supposit for what is or for what was, if the proposition is about the past. That is, because the subject can supposit for what it is truly predicated of by means of a verb about the past. For example, the proposition 'A white was Socrates' must be distinguished because 'white' can supposit for what is or for what was white. But if the proposition is about the future, then it must be distinguished because the subject can supposit for what is or what will be. That is, for what the subject is truly predicated of by means of a verb about the present or for what the subject is truly predicated of by means of a verb about the future. And this rule

71. Calvin Normore notes this point in his thesis, *op. cit.*, chap.2, 50. And he thinks it combines with Ockham's broader use of 'signify' to show that Ockham did think terms bore semantic relations to nonexistents. But Ockham's restriction of the word 'being' or 'entity' to presently existing things and lack of explicit alternative vocabulary, make him sceptical about saying Ockham shared the Quinean conception of ontological commitment.

72. *Summa logicae* II, c.10, (OPh I, 276).

should be understood to hold where the subject supposits personally, that is significantly.[73]

The term '*A*' supposits for those that are in '*A* was *B* ' when it stands for all those of which 'This is *A*' is true; for those that were, when it stands for all those of which 'This was *A*' is true. Likewise, '*A*' stands for those that are in '*A* will be *B* ' when it stands for those of which 'This is *A*' is true; for those that will be, when it stands for those of which 'This will be *A*' is true. But if the past and future tensed singular propositions 'This was *A*' and 'This will be *A*' are true now, then the truth-conferring semantic relations between their parts and things must obtain now. Thus, the above formulation seems to recommit Ockham to the thesis that the semantic relation of indication does obtain between the demonstrative pronoun 'this' and merely past or merely future entities, respectively. Likewise, for the parallel formula regarding propositions of possibility.

Ockham could avoid this difficulty, too, if he endorsed the following equivalences, where singular terms or demonstrative pronouns substitute for '*N* ' and general terms for '*A*':

(E17) '*N* was *A*' is true if and only if '*N* is *A*' was true,

(E18) '*N* will be *A*' is true if and only if '*N* is *A*' will be true,

and

(E19) '*N* is possibly *A*' is true if and only if '*N* is *A*' is possibly true;

and held that the right-hand side is the more basic in each case. Ockham asserts the last at least once,[74] and there seems to be no reason why he should hold (E19) and not (E17) and (E18).

(b) *The Existence Problem*. This proposal is supposed to have the merit of attributing to Ockham an ontology restricted to

73. *Ibid.*, c.22, (OPh I, 321–22).
74. *Expos. Periherm.* II, c.5, (OPh II, 467).

presently existing things only. As always, the question is, are there (were there, will there be) enough of them to do all of the theoretical jobs, especially given Ockham's rejection of abstract entities and inherent universals?

It may be argued that there are not (were not, will not be) enough to permit Ockham to state truth conditions of past tense and future tense propositions without positing merely past or merely future entities. For if only presently existing things can have semantic properties, it follows that

(A) Nothing is true unless it exists.

Ockham endorses this thesis in *Summa logicae* II, c.9, when he says of the proposition 'God exists' that "if it does not exist, it is not true."[75] And in *Quaestiones in libros Physicorum*, q.115 he implies it again when he comments that

> if no intellect existed, still man would not be a stone and yet the proposition 'man is not a stone' would not be true then, because no proposition would exist then.[76]

And what holds for the mode 'true' ought to hold for the other modes—'false', 'possible', 'necessary', 'impossible'—as well.[77]

On the interpretation under consideration, however, (E17)–(E19) state truth conditions for such tensed and modal singular propositions, and hence are supposed to be necessary truth. But (E17)–(E19) make the present truth of the past and future tense propositions depend on the past and future truth of the corresponding present tense proposition; and the present truth of the proposition of possibility on the possible truth of the assertoric proposition. By (A) and its analogues for other modes, it follows that the present truth of the past tense proposition, the future tense proposition, and the proposition of possibility requires the past, future, and present existence of

75. (OPh I, 275).

76. (OPh VI).

77. *Summa logicae* II, c.1, (OPh I, 242–43); *Expos. Periherm.* II, c.5, (OPh II, 457–468).

the corresponding present tense proposition. Yet, is it logically necessary that if the past tense (future tense, modal) proposition is true now, the corresponding present tense proposition existed in the past (will exist in the future, does exist in the present)? There is a problem about how Ockham can say so without changing his mind. For from the point of view of his mental-act theory, all propositions are creatures—really existent inscriptions or sounds and really existent mental qualities. And God can make, have made, or be going to make one without making, having made, or being going to make any other.[78]

Ockham was not totally oblivious to this difficulty and occasionally responds to it in passing. Thus, in *Summa logicae* I, c.63, he writes that

> the proposition 'A man is an animal' denotes that Socrates is truly an animal in such a way that the proposition 'This is an animal; (where 'this' indicates Socrates) *would be true if it were formed*...[79]

And in *Summa logicae* II, c.7, he explains that since 'The creator was God from eternity' is true now,

> the proposition 'This is God' (where 'this' indicates what 'creator' supposits for in the proposition 'The creator was God from eternity') was true from eternity, or *would have been true, if it had been formed*.[80]

Again, he remarks that

> the truth of the proposition 'The Apostles preached, while Christ was preaching' requires the truth of each part and that they were true at the same time, *if they were formed*.[81]

Such passages suggest a reformulation of (E17)–(E19) as follows:

(E20) '*N* was *P*' is true if and only if '*N* is *P*' was true or

78. For a more thorough discussion of these issues, see Part Five, chapter 26 below.

79. (OPh I, 194).

80. (OPh I, 270).

81. *Ibid.*, c.35, (OPh I, 352).

would have been true if it had been formed;

(E21) '*N* will be *P* ' is true if and only if '*N* is *P* ' will be true or would be true in the future if it were formed in the future;

(E22) '*N* can be *P* ' is true if and only if '*N* is *P* ' is possible or would be possible if it were formed.

These revisions are insufficient, however. For the right-hand side of each of (E20)–(E22) can be satisfied without the actual past, future, or present existence of the present tense proposition; a fortiori without the present existence of the past tense, future tense, or modal proposition. But by (A), the left-hand side of each of (E20)–(E22) will be false unless the existence condition is satisfied. To escape the existence problem entirely, it seems necessary to conditionalize both sides:

(E23) '*N* was *P* ' is true or would be true if it were formed, if and only if '*N* is *P* ' was true or would have been true if it had been formed;

(E24) '*N* will be *P* ' is true or would be true if it were formed, if and only if '*N* is *P* ' will be true or would be true in the future if it were formed in the future;

and

(E25) '*N* is possibly *P* ' is true or would be true if it were formed, if and only if '*N* is *P* ' is possible or would be possible if it were formed.

If the biconditionals in (E23)–(E25) are necessary, they seem ill-suited to the original task. For the truth conditions of subjunctive conditionals remain among the most elusive. Although Ockham surveys a variety of conditional propositions and inferences, including causal, temporal, and local propositions (see section 5 and chapter 12 below), he never singles out subjunc-

tive conditionals for special treatment. Of course, this could be because he anticipated one modern view—that subjunctive conditionals are primitive and do not admit of analysis. But I find incredible the notion that Ockham actually thought through the difficult and currently controversial issues regarding subjunctive conditionals, drew the conclusion that they did not admit of analysis, and therefore passed over them without comment in the *Summa logicae.* A logician who takes time to spell out truth conditions for propositions of the form '*N* is *P*' and '*A* is *B*' (see (T4) and (T5) above) would surely not have concealed such fruitful reflections about subjunctive conditionals from his readers. Rather I suspect that since such propositions had not yet become a standard part of the syllabus, Ockham did not think the matter through at all, and employs such propositions in passing in an unreflective way. Accordingly, I find it difficult to believe that if pressed, Ockham would not have discarded (E20)–(E22) for (E23)–(E25) on the ground that they expound the clear in terms of the opaque, and have preferred the explanation of tenses and modes in terms of quanitification over non-present temporalia and unactualized possibles.[82]

Alternatively, Ockham could have regarded the biconditionals in (E17)–(E19) as necessary, if he had identified propositions with necessarily existent, mind-independent, eternal abstract objects; for then he could have claimed that every proposition exists eternally and necessarily. Or he could have granted this if he had reduced the necessary existence of each and every proposition to God's necessary act of thinking of them. I shall explain below how the former is as inimical to his theology as it is to his philosophy, while the latter could be accomodated with no less and no greater ease than non-present temporalia and unactualized possibles (see Part Five, chapters 24–26). Drawing on that promissory note, I may say that, where facility of integration into the major lines of Ockham's

82. Freddoso notes the existence problem and the need to replace (E20)–(E22) with (E23)–(E25), but passes the more benign judgment that the latter are "enormously complicated" (*op. cit.*, 46–47).

philosophy and theology are concerned, the present proposal does not enjoy any advantage over the initial reading with its wider ontological commitment. The fact remains, however, that Ockham neither envisions nor makes a clear choice between them and so never gives a full development to either.

## 3. EXPONIBLE CATEGORICAL PROPOSITIONS

Having dealt with simple categorical propositions, their tenses and modes, Ockham turns to those that are "equivalent to molecular propositions." The latter description is scarcely perspicuous, however, since any categorical proposition is trivially equivalent to a molecular proposition: viz., to the conjunction or disjunction of itself with itself. Ockham's intent is to focus on what medieval logicians called "exponibles": propositions that imply a number of categorical propositions that express "what the proposition signifies by virtue of its form."[83] He means to exclude categoricals of the form '*N* is *P*' or '*A* is *B*' whose categorematic terms are either singular terms or absolute terms (see chapter 10, section 1 above), because he thinks there are no propositions whose truth-value is easier to assess than these. But where some clause involving syncategorematics is inserted as happens with reduplicatives, exclusives, and exceptions (e.g., '*A* qua *A* is *B*', and 'Every *A* but this *A* is *B*'), it is possible to find molecular propositions the truth-value of whose components is easier to evaluate. Likewise, where one or more of the categorematic terms is connotative, infinite, or privative and hence partly syncategorematic in force. Without being exhaustive, Ockham provides expositions for important cases which he will later draw on in mapping their conversion relations and formulating inference rules.[84]

(3.1) *Reduplicatives.* Frequent in discussions of medieval metaphysics were reduplicative propositions of which Ockham

83. *Summa logicae* II, c.11, (OPh I, 279).
84. *Ibid.* III–1, c.5, (OPh I, 377–381); c.65, (OPh I, 497).

gives the following, uninformative characterization:

(C6) a reduplicative proposition is one that includes the expression 'qua' or its equivalent, where the expression is taken to have a reduplicative function.[85]

Paradigm among reduplicatives are propositions of the following forms, which vary in where the reduplicative clause falls in relation to the negation sign: '*A* qua *B* is *C* ', '*A* qua *B* is not *C* ' and '*A* is not *C* qua *B*'.[86] The reduplicative clause has a *reduplicative* function, when the proposition is taken to imply that the principal predicate is affirmed (denied) of the reduplicated predicate in a universal proposition: e.g., 'qua *B*' has a reduplicative function in '*A* qua *B* is *C* ' if the latter is taken to imply 'Every *B* is *C* '. It has a *specifying* function when the latter universal proposition is not asserted to be true, but the reduplicated predicate expresses the reason why the principal predicate is affirmed (denied) of the subject. Thus, someone might say 'The fire, insofar as it is hot, heats' without claiming that everything hot actually heats, but only that the reason this fire heats is that it is hot.[87] Further, among genuine reduplicatives, Ockham distinguishes *causal* reduplicatives in which the reduplicated predicate expresses the cause why the principal predicate pertains to the subject, from *concomitant* reduplicatives in which this is not asserted to be so.

Turning to truth conditions, let us focus on those for singular or indefinite concomitant reduplicatives of the above three forms: '*N* qua *B* is *C* '/'*A* qua *B* is *C* ', '*N* qua *B* is not *C* '/'*A* qua *B* is not *C* ', and '*N* is not *B* qua *C* '/'*A* is not *B* qua *C* '. Ockham offers the following rule for expounding the first:

(E26) An affirmative singular or indefinite concomitant reduplicative proposition has the following four exponents: (i) one in which the principal predicate is truly predicated of the principal subject; (ii) one in which

85. *Ibid.* II, c.16, (OPh I, 289).
86. *Ibid.*, (OPh I, 290).
87. *Ibid.*, (OPh I, 290, 295).

the reduplicated term is predicated of the principal subject; (iii) one in which the principal predicate is predicated of the reduplicated term in a universal proposition; and (iv) a true conditional from the reduplicated term to the principal predicate,

from which the following truth conditions can be derived:

(T11) '*N* qua *B* is *C* ' is true if and only if '*N* is *C* and *N* is *B* and every *B* is *C* and if something is *B*, then it is *C* ' is true

and

(T12) '*A* qua *B* is *C* ' is true if and only if '*A* is *C* and *A* is *B* and every *B* is *C* and if something is *B*, then it is *C* ' is true.

These form the basis of many of Ockham's criticisms of many opposing positions in philosophy and theology. For from it he easily derives

(R9) The inference from an affirmative singular or indefinite concomitant reduplicative proposition to its prejacent is a formal inference,

or, put schematically,

(R9′) '*N* qua *B* is *C*; therefore *N* is *C* ' is a formal inference,

and

(R9″) '*A* qua *B* is *C*; therefore *A* is *C* ' is a formal inference,

"because its prejacent is always one of the exponents."[88] By contrast, others had thought that adding a reduplicative clause

88. *Ibid.*, (OPh I, 291).

to a term could distract or diminish its supposition so that '*A* qua *B* ' could take predicates that '*A simpliciter* ' could not and vice versa. For example, we saw in Part One, chapter 2 above, how some asserted 'Socrates conceived one way is particular and conceived another way is universal', while denying 'Socrates *simpliciter* is universal'. Appealing to (R9'), Ockham rejects the position as contradictory.

Corresponding to such affirmative propositions, there are two sorts of negations: one in which only the principal predicate is governed by the negation sign and the other in which both the principal and reduplicated predicates are so governed. Concerning the former, Ockham stipulates

(E27) A singular or indefinite concomitant reduplicative proposition whose principal predicate but not its reduplicative predicate is governed by a negation sign has the following four exponents: (i) an affirmative proposition in which the reduplicated term is truly asserted of the principal subject; (ii) a negative one in which the principal predicate is denied of the reduplicated term in a universal proposition; (iii) a negative proposition in which the principal predicate is denied of the principal subject; and (iv) a conditional proposition from the reduplicated term to the negation of the principal predicate,

from which the following truth conditions can be derived:

(T13) '*N* qua *B* is not *C* ' is true, if and only if '*N* is *B* and *N* is not *C* and no *B* is *C* and if anything is *B*, it is not *C* ' is true

and

(T14) '*A* qua *B* is not *C* ' is true, if and only if '*A* is *B* and *A* is not *C* and no *B* is *C* and if anything is *B*, it is not *C* ' is true.[89]

89. *Ibid.*, (OPh I, 293).

Nevertheless, this first sort of negation is not the contradictory opposite of the corresponding affirmative proposition, since both could be false at once: viz., in case neither 'Every *B* is *C*' nor 'No *B* is *C*' is true. Rather the contradictory opposite of '*N* qua *B* is *C*'/'*A* qua *B* is *C*' is '*N* is not *C* qua *B*'/'*A* is not *C* qua *B*'. Thus Ockham stipulates

(E28) A singular or indefinite concomitant reduplicative proposition whose principal predicate and reduplicated predicate both fall within the scope of the negation sign is true if and only if any one of the exponents of the corresponding affirmative singular or indefinite concomitant reduplicative proposition is false.[90]

Thus, neither 'Socrates qua man is white' nor 'Socrates qua man is not white', but 'Socrates is not white qua man' is true.

(3.2) *Exclusive Propositions*. Ockham identifies exclusive propositions by reference to an exclusion sign:

(C7) An exclusive proposition is one that includes the expressions 'only' or 'alone' taken syncategorematically.[91]

The qualification 'taken syncategorematically' is inserted to cover an ambiguity that may have been more striking in Latin; yet, even in English, we may say 'Socrates runs alone' and mean either that he runs in a place where no else is running (although others may be running elsewhere), or that he is the only one running at all. Ockham identifies the latter use as syncategorematic; the former as categorematic. Construed syncategorematically, 'only' and 'alone' are equivalent and in Latin may govern the subject, the predicate, or the copula.[92] Further, he observes that even taken syncategorematically, 'only' and 'alone' have a primary use and a secondary use.

Looking at their primary use, Ockham stipulates that

90. *Ibid.*, (OPh I, 294).
91. *Ibid.*, c.17, (OPh I, 296–97).
92. *Ibid.*, (OPh I, 297).

(E29) whenever an exclusion sign taken according to its primary use is put in the subject position of an affirmative categorical proposition, the proposition always denotes that the predicate is truly predicated of the subject and denied of everything of which the subject is not truly predicated. Therefore, any [such] exclusive proposition has any two exponents: one affirmative and one negative,[93]

from which the following truth conditions can be derived:

(T15) 'Only *A* is *B* ' is true if any only if '*A* is *B* and no non-*A* is *B* ' is true.

The right-hand side of (T15) contains an infinite term 'non-*A*' (Ockham sometimes says 'other than *A*'), and Ockham's rule for expounding propositions including such terms is recorded in (T22) below. On the other hand,

(E30) Whenever an exclusion sign taken according to its primary use is put in the subject position of a negative categorical proposition, "the proposition denotes that the predicate is truly denied of the subject and holds of everything that the subject is truly denied of. Thus, it has two exponents: viz., its negative prejacent and an affirmative one,"[94]

from which the following truth conditions may be derived:

(T16) 'Only *A* is not *B* ' is true if and only if '*A* is not *B* and every non-*A* is *B* ' is true.

According to this primary usage, 'non-*A*' in the exposition of exclusive propositions includes the parts of *A* at least where the parts of *A* are not *A*'s in their own right. Thus, 'Only man is white' will be false on this use, because if a man is white, his arm

93. *Ibid.* 94. *Ibid.*

is white, even though his arm is not a man in its own right. So will 'Only man is rational', since a man's soul is rational, even though it is not a man in its own right.[95] Broadly speaking, the exclusion sign can be taken to rule out everything extrinsic to that of which the subject is predicated, but not the parts of those of which it is predicated.[96]

Turning to cases in which the exclusion sign is put in the predicate position, Ockham says that properly speaking

(E31) When an exclusion sign is put in the predicate of an affirmative categorical proposition, the proposition denotes that the predicate is said of the subject and that everything that the predicate is not true of is denied of it.[97]

Thus,

(T17) '*A* is only *B* ' is true if and only if '*A* is *B* and *A* is not non-*B* '.

And once again, recourse must be had to Ockham's rule for expounding propositions containing infinite terms, if one is to be in a position to assess the truth conditions.

(3.3) *Exceptives*. Ockham informs us that

(C8) syncategorematics such as 'but' (*praeter*) and 'except' (*nisi*) when they function as exceptives make the propositions in which they occur exceptives.[98]

Ockham notes that besides their use as exceptives, '*praeter*' has a diminutive use in Latin in expressing the subtraction of one number from another, and '*nisi*' serves as a propositional connective (as when it is translated 'unless'); and these occurrences do not turn the propositions of which they are a part into exceptives.[99] As for truth conditions, Ockham stipulates that

95. *Ibid.*, (OPh I, 298).
96. *Ibid.*, (OPh I, 299).
97. *Ibid.*, (OPh I, 302).
98. *Ibid.*, c.18, (OPh I, 307).
99. *Ibid.*

(T18) An affirmative exceptive is true if and only if "the predicate is denied of the part taken out and pertains to everything else contained under the subject,"

or, put schematically,

(T18′) 'Every *A* but this *A* is *B*' is true if and only if 'This *A* is not *B*' and 'Every *A* other than this *A* is *B*' are true,

where the right-hand side is thought to expound the left.[100] On the other hand,

(T19) A negative exceptive is true if and only if the predicate is affirmed of the part taken out and denied of everything else that is contained under the subject,

or, put schematically,

(T19′) 'No *A* but this *A* is *B*' is true if and only if 'this *A* is *B*' and 'Every *A* other than this *A* is not *B*' are true,

where the right-hand side expounds the left.[101]

(3.4) *Propositions Containing Connotative and Relative Terms*. When Ockham says that a proposition is exponible if a molecular proposition expresses what it signifies by virtue of its form (*ex forma sua*), he is using the notion of form broadly to cover not only the implications a proposition has by virtue of the presence and arrangement of explicit syncategorematics, but also those implicit in its categorematic terms. He says that "all propositions that include connotative and relative terms are exponible"[102] because such terms signify something primarily and something secondarily by virtue of syncategorematics in the nominal definitions. The replacement of such terms by their nominal definitions makes the logical form of propositions

100. *Ibid.*
101. *Ibid.*, (OPh I, 307–308).
102. *Ibid.*, c.11, (OPh I, 279).

containing them more fully explicit. Hence, "any proposition that includes such a term has exponents that express what that proposition implies."[103]

We have seen how for Ockham connotative and relative terms are sorted through nine of the ten Aristotelian categories, and it is therefore impossible to give a general formula that covers all cases. Properly speaking, it is the business of metaphysics, not logic, to pursue such analyses, and the completion of this task would constitute the full realization of Ockham's ontological program (see Part One, chapters 5 and 9 above). Nevertheless, it is worthwhile for now to look at one important case—viz., that of concrete inherence terms. He explains that

(E32) Any proposition that includes a concrete term whose corresponding abstract term signifies a thing that informs another thing, has two exponents—one with both terms in the nominative case and the other with a term in an oblique case.[104]

Letting such concrete inherence terms substitute for '*F*', the corresponding abstract terms for '*F*-ness', singular terms for '*N*', and any general term for '*B*', he stipulates the following:

(T20) '*N* is *F*' is true if and only if '*N* exists and *F*-ness inheres in *N*' is true

and

(T21) '*F* is *B*' is true if and only if 'Something is *B* and *F*-ness inheres in it' is true.[105]

For example, 'Socrates is white' is expounded by 'Socrates exists' and 'Whiteness inheres in Socrates', where the former has only nominative case terms, while the latter has one oblique

103. *Ibid.*, (OPh I, 280–81).
104. *Ibid.*, (OPh I, 281).
105. *Ibid.*

case term.

Initially, it is puzzling why Ockham should have thought it necessary or advisable to propose (T20) and (T21), when he already had

(T4′) '*N* is *P*' is true if and only if there is something for which '*N*' and '*P*' both supposit in '*N* is *P*'

and

(T5′) '(Some) *A* is *B*' is true if there is something for which '*A*' and '*B*' both supposit.

The latter pair seems more perspicuous than the former, since the two-name theory is easy to apply and Ockham never gives comparable directions for evaluating oblique case propositions such as '*F*-ness inheres in *N*'. And we have seen how Ockham originally proposes (T4′) and (T5′) for propositions with absolute categorematic terms, but frequently gives examples that include one or more connotative terms.

Ockham would doubtless reply that (T20) and (T21) only spell out what is implicit in applying (T4′) and (T5′) to propositions containing concrete inherence terms. For by

(E2) A term '*T*' has personal supposition for *x* in *p*, if and only if '*T*' occurs in *p* and 'This is *T*' (where 'this' indicates *x*) is true,

there is something for which 'Socrates' and 'white' both supposit in 'Socrates is white', only if 'This is white' (where 'this' indicates Socrates) is true; and (T20) tells us that the latter is true only if 'Whiteness inheres in Socrates'. In short, in determining that 'white' supposits for Socrates, we recognize what we need to know to evaluate the oblique case proposition 'Whiteness inheres in Socrates'.

In *Reportatio* II, q.1, where Ockham gives theological reasons for holding that inherence is a thing really distinct from the subject and the inhering form, he contrasts the role of the copula in categorical propositions containing only absolute terms with that in oblique case propositions or in those contain-

ing concrete inherence terms. In the first case, the copula is said to be "common by union" because it joins one term to another.[106] In the second case, it is both "common by union" and "common by predication." For 'inheres' in 'Whiteness inheres in a man' signifies real relations of inherence in such a way that it can be predicated of and supposit for them.[107] On this view, the oblique case proposition involves not two names, but three! In *Summa logicae* I, c.51, however, Ockham notes how Aristotle would reject this view[108] and makes no mention of his own endorsement of it for theological reasons (see Part One, chapter 7 above).

(3.5) *Negative Terms*. Of negative terms, the most systematically well-behaved are infinite terms of the form 'non-*A*'. Ockham explains vaguely that

(E33) Any proposition containing an infinite term has two exponents—an affirmative one with 'something' or 'some things' or their equivalent as subject or predicate.

For example,

(T22) '*A* is non-*B* ' is true if and only if '*A* is something and *A* is not *B* '.[109]

The affirmative exponent makes any proposition of the form '*A* is non-*B* ', where '*A*' is an empty term, false. It also explains why 'White man is man' and 'White man is non-man' can both be false—viz., when no man is white.[110]

The exposition of privative terms such as 'blind' and 'foolish' that are not equivalent to infinite terms varies so much that only the following can be said in general:

(E34) Affirmative propositions containing privative terms

106. *Ibid.*, (OTh V, 21).
107. *Ibid.*, (OTh V, 21–22).
108. (OPh I, 169–170).
109. *Ibid.* II, c.12, (OPh I, 283–84).
110. *Ibid.*, (OPh I, 285).

not equivalent to infinite terms have more than two exponents,[111]

which can be easily derived by examining the nominal definition of the term in question.[112]

## 4. MOLECULAR PROPOSITIONS

Molecular propositions are composed of categorical propositions joined by propositional connectives. Perhaps because it was involved in the regimentation of a natural language and not in the construction of artificial ones, medieval logic did not share the modern preoccupation with truth-functional connectives and examined the more difficult logical relations apart from any systematic effort to minimize their number or reduce them to truth-functional ones. Thus, Ockham sorts molecular propositions as conjunction, disjunctions, or conditionals, as causal, temporal, or local propositions, depending on the kind of propositional connective employed. He explains that conditionals are equivalent to inferences and defers full-scale treatment of them to *Summa Logicae* III;[113] they will be the subject of chapter 12 below. For each type he attempts to supply identification rules, truth conditions and sometimes necessity, possibility, and impossibility conditions, equivalences and inference rules.

(4.1) *Truth-Functional Connectives*. Of the five remaining types, conjunction and disjunction are the only truth-functional connectives. Regarding the first, Ockham explains that

(C9) A conjunction is a proposition composed of many categorical propositions joined by the conjunction 'and' or one equivalent to it.

Thus, 'Socrates runs and Plato disputes' is a conjunction. But so

111. *Ibid.*, c.13, (OPh I, 285).
112. *Ibid.*, (OPh I, 286).
113. *Summa logicae* II, c.31, (OPh I, 347).

are 'Socrates is neither white nor black' and 'Socrates is both white and hot', because they are equivalent to 'Socrates is not white and Socrates is not black' and 'Socrates is white and Socrates is hot', respectively.[114] As for the truth and necessity of conjunctions, Ockham stipulates that

(T23) it is necessary for the truth of a conjunction that each part be true

and

(T24) it is necessary for the necessity of a conjunction that each part be necessary.[115]

In relation to truth and necessity, a conjunction follows its weakest member. Although he does not say so explicitly, the conditions just mentioned are sufficient as well as required for truth and necessity in such propositions. The matter is different where possibility and impossibility are concerned. For while

(T25) it is necessary for the possibility of a conjunction that each part be possible,

this is not sufficient. For example, each part of 'Socrates is sitting and he is not sitting' is possible, but the conjunction is impossible because the parts are incompossible. Thus,

(T26) it is necessary for the impossibility of a conjunction that one part be impossible or incompossible with another part,

where either is sufficient.[116] Given the truth conditions in (T23), Ockham derives the following rule:

(R10) the inference from a conjunction to each part is always

114. *Ibid.*, c.32, (OPh I, 347).
115. *Ibid.*, (OPh I, 348).
116. *Ibid.*

> a good inference...but the reverse commits a fallacy of the consequent...,

although "sometimes the inference from one part of a conjunction to the conjunction can be good inference by virtue of the matter, as if one part of the conjunction implies the other."[117]

On the other hand, Ockham explains that

> (C19) a disjunction is a proposition composed of many categorical propositions joined by the conjunction 'or' or one equivalent to it;

for example, the proposition 'You are a man or a donkey' and likewise the proposition 'You are a man or Socrates disputes' are disjunctions.[118] Truth conditions for disjunctives were a matter of some controversy. Normally we would suppose that

> (T27) A disjunction is true, if and only if one of its parts is true.

Ockham follows the medieval interpretation of Aristotle, however, when he notes that Aristotle would restrict

> (T28) it is necessary for the truth of a disjunction that one part be true

to propositions about the present or about the past and deny it for propositions about the future or those equivalent to propositions about the future. Where future contingents were concerned, Aristotle allegedly claimed that the disjunctive of contradictory opposites was true, although each part lacked truth-value. As we shall see in Part Five, chapter 27 below, Ockham thought the doctrine of omniscience required his unqualified endorsement of the principle of bivalence, and so maintained that "in truth a proposition about the future is either true or false, although

117. *Ibid.*, (OPh I, 348–49).
118. *Ibid.*, c.33, (OPh I, 349).

avoidably so."[119]

As for the other modalities, Ockham observes that

(T29) it is necessary for the necessity of a disjunction that either one part is necessary, or the parts are mutually contradictory, or are equivalent to contradictories, or are convertible with contradictories.

Thus 'Socrates runs or God exists' is necessary, because one part is necessary, but 'God creates or does not create' is necessary, because its parts are contradictory.[120] Further,

(T30) It is sufficient for the possibility of a disjunction that one part be possible,

where this condition is likewise necessary; while

(T31) It is necessary for the impossibility of a disjunction that each part be impossible,

where this condition is also sufficient.[121]

From the above truth conditions, Ockham easily reads off the following inference rule:

(R11) The inference "from one part of a disjunction to the whole disjunction is a good argument, and the reverse is a fallacy of the consequent" except in special cases,[122]

and likewise

(R12) The "inference from a disjunction together with the negation of one part, to the other part is a good inference;

for example, 'Socrates is a man or a donkey; Socrates is not a

119. *Ibid.*
120. *Ibid.*
121. *Ibid.*
122. *Ibid.*, (OPh I, 350).

donkey; therefore Socrates is a man' does follow."[123]

Further, comparing the truth conditions for conjunctions and disjunctions, Ockham anticipates the De Morgan laws:

(R13) the contradictory opposite of a conjunction is a disjunction composed of the contradictories of the parts of the conjunction.

For example, the contradictory opposite of 'Socrates is white and Plato is black' is not 'Socrates is not white and Plato is not black' but 'Socrates is not white or Plato is not black', since the falsity of one conjunct is sufficient for the falsity of the conjunction.[124] Likewise,

(R14) the contradictory opposite of a disjunction is a conjunction composed of the contradictories of the parts of the disjunction.[125]

For example, the contradictory opposite of 'Socrates is not white or Plato is not black' is 'Socrates is white and Plato is black', since the latter implies that neither part of the former is true.

(4.2) *Non-Truth-Functional Connectives.* Ockham deals with the non-truth-functional connectives more briefly. (4.2.1) *Causal Propositions.* Among molecular propositions, the most important of these is the causal relation. Ockham explains that

(C11) A causal proposition is one composed of many categorical propositions by means of the conjunction 'since' or 'because' (*'quia'*) or its equivalent.

For example, 'Since Socrates is a man, Socrates is an animal' is a causal proposition. So are 'Socrates works in order to be healthy' and 'Socrates takes a walk after dinner lest he get sick' because they are equivalent to 'Socrates works, because he

123. *Ibid.*
124. *Ibid.*, c.32, (OPh I, 348).
125. *Ibid.*, c.33, (OPh I, 349).

wants to be healthy' and 'Socrates takes a walk after dinner, because he does not want to get sick'. Likewise, so is 'Socrates becomes hot inasmuch as he is in motion' because it is equivalent to 'Socrates becomes hot because he is in motion'.[126]

As for truth conditions, Ockham stipulates that

(T32) It is necessary for the truth of a causal proposition that (i) each part be true and that (ii) the antecedent express a cause required for the truth of the consequent.

Thus, 'Socrates is white, because Plato is white' is false even where 'Socrates is white and Plato is white' is true, because 'Plato is white' does not express any cause necessary for the truth of 'Socrates is white'.[127] 'Cause' here is taken broadly to cover logical relations such as that between 'man' and 'animal' in the true causal proposition 'Since Socrates is a man, Socrates is an animal'; or the priority and posteriority with which a predicate applies to its first subject and those subordinate to it as in the true causal proposition 'An isosceles has three..., because a triangle has three...'; or for an efficient cause—whether *per se* or *per accidens*, natural or voluntary—as in the true causal proposition 'The wood gets hot, because it is near the fire' (see Part Four, chapter 18 below).

Turning to the other modalities, Ockham explains that

(T33) It is necessary for the necessity of a causal proposition that each part be necessary

since otherwise condition (T32i) would not be necessarily satisfied. Nevertheless, this is not sufficient, since (T32ii) must be necessarily satisfied as well. Likewise,

(T34) "it is necessary for the possibility of a causal proposition that each part be possible,

126. *Ibid.*, c.34, (OPh I, 350).
127. *Ibid.*

but this is not sufficient, any more than the necessity of each part is sufficient for its necessity."[128] It is also required that it be possible for what the antecedent expresses to be the cause of the truth of the conclusion. For this reason, "neither the impossibility nor falsity of any part is required for the impossibility of a causal proposition; rather

(T35) it is sufficient that the antecedent could not be a cause of the consequent."[129]

The same considerations yield the following inference rules:

(R15) the inference from a causal proposition to one part holds good, but not the other way around

and

(R16) the inference from a causal proposition to the conjunction of its parts holds good but not the other way around.

Thus, 'Every man sins because he has free will; therefore every man sins and every man has free will' holds good, but the reverse does not follow.[130]

(4.2.2) *Temporal Propositions.* First offering an identification rule, Ockham says

(C12) A temporal proposition is one composed of many categorical propositions by means of a temporal adverb.

For example, 'Socrates runs while Plato disputes', 'Socrates was white, when Plato was black', 'Socrates was white, when Plato was not running'.[131] As with causal propositions, a temporal proposition is not true unless both parts are true. But this is not

128. *Ibid.*, (OPh I, 351).
129. *Ibid.*
130. *Ibid.*
131. *Ibid.*, c.35, (OPh I, 352).

sufficient; they must be true about the relevant times. Since different temporal adverbs—e.g., 'while', 'when', 'before', 'after'—indicate different temporal relations, only the following general statement is possible:

(T36) It is necessary for the truth of a temporal proposition (i) that each part be true, and (ii) that they be true about the same or different times as indicated by the temporal adverb connecting them.[132]

The necessity of a temporal proposition requires the necessity of both (T36i) and (T36ii); the possibility of a temporal proposition, the possibility of both; but the impossibility requires the impossibility of only one and for this it is enough if the parts are incompossible.[133]

Turning to inference rules, Ockham maintains that

(R17) the inference from a temporal proposition to one part holds good but not vice versa

and

(R18) from a temporal proposition, the conjunction of its parts follows but not vice versa,

since the satisfaction of (T36i) does not in general guarantee the satisfaction of (T36ii).[134]

(4.2.3) *Local Propositions*. Predictably, Ockham explains that

(C13) a local molecular proposition...is one that is composed of many categorical propositions joined by an adverb of place or its equivalent;

for example, 'An accident is where its subject is' and 'Christ suf-

132. *Ibid.*
133. *Ibid.*, (OPh I, 352–53).
134. *Ibid.*, (OPh I, 353).

fered where he preached'.[135] And paralleling temporal propositions,

(T37) It is necessary for the truth of a local proposition that (i) each part be true, and that (ii) they be true about places related the way the adverb of place indicates,

and analogous inference rules hold as well.[136]

135. *Ibid.*, c.36, (OPh I, 354).
136. *Ibid.*

# 12

# Arguments

Ockham's treatment of arguments, the principal subject matter of logic, in *Summa logicae* III and IV is a mixture of tradition and innovation. His syllabus is largely conservative. In identifying and commending good argument-forms, he embraces Aristotle's program in the *Analytics*, declaring the syllogism to be the prince of arguments (III–1) and demonstration the noblest of syllogisms (III–2). He then turns to dialectical or topical arguments (III–3) and in chapters 1–9 treats the subject matter of Boethius's *De topicis differentiis,* before dealing with the legacy of Aristotle's *Topics* in chapters 17–30. He concludes (in III–4) with an extensive discussion of fallacies that parallels Aristotle's *Sophistical Refutations.* Yet, no part of this discussion fails to bear the stamp of Ockham's distinctive contribution. The completeness of his coverage of valid syllogistic forms is unprecedented in its attention to syllogisms with singular propositions and its consideration of "mixed" syllogisms with some propositions assertoric and some modal or some of one mode and some of another. His discussion of demonstration reflects his appreciation of the contingency of creation and the importance of intuitive cognitions of sensible particulars as the source of all knowledge (see Part Three, chapter 13 below). Finally, whatever had been learned in the traditional study of topics is diverted by Ockham to his theory of inference.

In its focus on the logic of terms, Ockham's theory of inference contrasts with that of modern logic.[1] The latter begins with the propositional calculus and develops as much of a

1. As noted by Otto Bird in his excellent article "The Tradition of the Logical Topics: Aristotle to Ockham," *Journal of the History of Ideas* XXIII (1962): 307–323, especially 320–21.

theory of inference as possible within that framework. Predicate calculus is parasitic on propositional calculus in that, roughly speaking, instantiation is applied to quantified formulae to yield concatenations that can be handled within the propositional calculus and generalization is applied to the derived formulae to restore a quantified conclusion. By contrast, Ockham follows Aristotle in beginning with syllogisms, which hold good by virtue of relations among quantified terms. After more than one hundred chapters on syllogisms and demonstration, he tries—as I shall argue—to explain the validity of as many non-syllogistic inferences as possible in terms of available reductions to syllogisms. The inference rules of our propositional calculus are not completely ignored but receive comparatively short shrift in one chapter.[2]

In modern logic, the principal division among inferences is that between material and strict implication—i.e., between inferences whose premisses *are not* and those whose premisses *cannot* be true without their conclusions being true—where the division is not exclusive but instances of the latter are included among those of the former. In medieval logic, the driving wedge is between those that hold good for any subject matter and those that do not—that between "formal" and "material" inferences. Aristotle's syllogistic was seen to focus on formal inferences, which could be instantiated with equal legitimacy in any of the sciences. Since the division between formal and material inferences is exclusive, it is not equivalent to the modern one between material and strict implication. It might be thought at least that all formal inferences would be instances of strict implication, since all formal inferences would hold good by virtue of the syncategorematic terms in the premiss(es) and conclusion and so would be among those whose premiss(es) cannot be true when the conclusion is false. We shall see that Ockham's program to assimilate as many good inferences as possible to the syllogism so complicates the pattern of his divisions that any neat mapping is out of the question.

An exhaustive survey of Ockham's treatment of arguments is

2. *Summa logicae* III–3, c.38, (OPh I, 727–731).

the subject matter for many books[3] and beyond the scope of this one. In what follows, I shall say as much about the syllogism and demonstration as will be useful elsewhere in our discussion and conclude with an examination of Ockham's division among inferences.

## 1. SYLLOGISMS

According to customary definition, "a syllogism is discourse in which a conclusion follows necessarily from two premisses disposed in mood and figure."[4] It follows that no invalid argument counts as a syllogism, but no stipulation is made regarding the truth or falsity of the premisses.[5] Syllogisms are distinguished from other valid arguments in having two and only two premisses; categorical syllogisms, in having three and only three categorematic terms: the major term, which occurs in the first premiss and as the predicate of the conclusion; the minor term, which occurs in the second premiss and as the subject of the conclusion; and the middle term, which occurs in both premisses but not in the conclusion at all.[6]

The *figure* of a categorical syllogism is determined by whether the middle term occupies the subject or predicate position in the major and minor premisses, respectively. Ockham distinguishes three figures for syllogisms:

> ...The first figure is that in which the middle term is subject in the first proposition and predicate in the second. The second figure occurs when the middle term is predicate in both. The third figure, when the middle term is subject in both...[7]

These can be represented schematically as follows, where '*P*'

3. For example, Damascene Webering, *Theory of Demonstration According to William Ockham*, (St. Bonaventure, NY, 1953), and Calvin Normore, *The Logic of Time and Modality in the Later Middle Ages: The Contribution of William Ockham*, an unpublished Ph.D. dissertation.

4. *Summa logicae* III–1, c. 1, (OPh I, 361).

5. *Ibid.*

6. *Ibid.*, c.2, (OPh I, 362).

7. *Ibid.*

stands for the major term, '*S*' for the minor, and '*M*' for the middle; and where all syncategorematic terms except the copula are omitted:

| | *1st figure* | *2nd figure* | *3rd figure* |
|---|---|---|---|
| *Major Premiss:* | *M* is *P* | *P* is *M* | *M* is *P* |
| *Minor Premiss:* | *S* is *M* | *S* is *M* | *M* is *S* |
| *Conclusion:* | *S* is *P* | *S* is *P* | *S* is *P* |

It might seem obvious that one possible combination has been omitted: viz., that in which the major term is a subject and the minor is a predicate:

| | *4th figure* |
|---|---|
| *Major Premiss:* | *P* is *M* |
| *Minor Premiss:* | *M* is *S* |
| *Conclusion:* | *S* is *P* |

Ockham follows Aristotle in maintaining that in fact no argument of this fourth figure is valid and hence that none is a syllogism. If the premisses are transposed, however, the middle terms will be arranged as they are in the first figure, and it will be possible to draw a valid inference to the conclusion '*P* is *S*' but not to the conclusion '*S* is *P*'.[8] For example, the fourth figure inference 'Every man is an animal; every animal is a substance; therefore every substance is a man' is invalid, but the first figure inference resulting from transposing the premisses—'Every animal is a substance; every man is an animal; therefore every man is a substance'—is valid.[9]

8. *Ibid.*
9. *Ibid.*

The *mood* of a categorical syllogism depends upon whether its premisses are universal or particular (on their quantity), negative or affirmative (on their quality). Ockham calculates that "taking the combinations for two propositions through universal and particular, affirmative and negative, there will be sixteen combinations" for each figure.[10] Not all of these are valid or syllogistic, however. And Ockham's program in the rest of *Summa logicae* III–1 is to catalog the valid syllogistic forms for each figure, beginning with the easiest cases (those with present tense assertoric propositions), moving on to those with one or more propositions in the past or future tense, and finally considering those with modal propositions. For present purposes, it will be enough to look at syllogisms whose propositions are present tense and assertoric in the nominative case only.

Of sixteen possible combinations for each figure, syllogistic theory allows only those regulated by the *dici de omni* or the *dici de nullo* to count as valid or syllogistic. *Dici de omni* occurs in a proposition that denotes or signifies that nothing is taken under the subject that the predicate is not asserted of, the paradigm being a universal affirmative proposition. *Dici de nullo* occurs in a proposition that denotes or signifies that the predicate is denied of whatever the subject is affirmed of, the paradigm being the universal negative proposition.[11] Accordingly, every valid syllogistic mood contains at least one universal or singular premiss which includes (excludes) everything contained under the major or the minor in (from) what is included under the middle, or vice versa. Apparently, more is involved, because Ockham remarks that valid moods in the first figure are so regulated *immediately*, while those of the second and third figure *mediately*, insofar as they are reducible to arguments in the first figure.[12] He does not say explicitly what it is, however, but instead offers rules to use in distinguishing

10. *Ibid.*, c.3, (OPh I, 364); cf. c.10, (OPh I, 388–89) and c.14, (OPh I, 398).

11. *Ibid.*, c.2, (OPh I, 363).

12. *Ibid.*, c.4, (OPh I, 371).

arguments so regulated from those that are not.[13] Ockham emphasizes that such styles of argument hold good regardless of which three categorematic terms occur as subject and predicate—whether they are from the category of substance or the categories of accident—and so can be legitimately instantiated in any science.[14]

To be thus regulated and so count as syllogistic, moods in the *first figure* must have a universal major and an affirmative minor. The following four qualify—

| | "Barbara" | "Celarent" | "Darii" | "Ferio" |
|---|---|---|---|---|
| *Major Premiss:* | *A* All *M* is *P* | *E* No *M* is *P* | *A* All *M* is *P* | *E* No *M* is *P* |
| *Minor Premiss:* | *A* All *S* is *M* | *A* All *S* is *M* | *I* Some *S* is *M* | *I* Some *S* is *M* |
| *Conclusion:* | *A* All *S* is *P* | *E* No *S* is *P* | *I* Some *S* is *P* | *O* Some *S* is not *P* |

—and received the quoted traditional nicknames, whose vowels give the quantity and quality of the premisses and conclusion in order. Ockham scarcely mentions these mnemonic devices, but Sherwood makes a good deal of them and may have authored a verse summarizing the moods and their reduction relations.[15] (Ockham says that all four moods of the first figure are "self-evident,"[16] but Sherwood gives priority to Barbara and Celarent whose respective regulation by *dici de omni* and *dici de nullo* he finds more obvious.[17]) Arguments in the *second figure* (except those whose middle terms are discrete terms or are

13. E.g., *ibid.*, c.5, (OPh I, 377–381), apparently for arguments in the first figure.

14. *Ibid.*, c.4, (OPh I, 376).

15. *Introduction to Logic*, chap.4, sec.9, (Kretzmann trans., 66–67); cf. Peter of Spain, *Tractatus* IV, (De Rijk ed., 52–53).

16. *Summa logicae* III–1, c.4, (OPh I, 371).

17. *Op. cit.*, chap.4, sec.6, 61–62.

categorematics taken together with a universal sign[18]) must have a universal major and one negative premiss;[19] the following moods hold good:[20]

| | "Camestres" | "Baroco" | "Festino" | "Cesare" |
|---|---|---|---|---|
| *Major Premiss:* | *A* All *P* is *M* | *A* All *P* is *M* | *E* No *P* is *M* | *E* No *P* is *M* |
| *Minor Premiss:* | *E* No *S* is *M* | *O* Some *S* is not *M* | *I* Some *S* is *M* | *A* All *S* is *M* |
| *Conclusion:* | *E* No *S* is *P* | *O* Some *S* is not *P* | *O* Some *S* is not *P* | *E* No *S* is *P* |

Finally, valid moods in the ***third figure*** always have a universal or singular premiss, an affirmative minor, and never a universal conclusion;[21] the following six are acceptable:

| | "Datisi" | "Ferison" | "Disamis" | "Bocardo" |
|---|---|---|---|---|
| *Major Premiss:* | *A* All *M* is *P* | *E* No *M* is *P* | *I* Some *M* is *P* | *O* Some *M* is not *P* |
| *Minor Premiss:* | *I* Some *M* is *S* | *I* Some *M* is *S* | *A* All *M* is *S* | *A* All *M* is *S* |
| *Conclusion:* | *I* Some *S* is *P* | *O* Some *S* is *P* | *I* Some *S* is *P* | *O* Some *S* is not *P* |

| | "Darapti" | "Felapton" |
|---|---|---|
| *Major Premiss:* | *A* All *M* is *P* | *E* No *M* is *P* |
| *Minor Premiss:* | *A* All *M* is *S* | *A* All *M* is *S* |
| *Conclusion:* | *I* Some *S* is *P* | *O* Some *S* is not *P* |

18. Cf. *Summa logicae* III–1, c.13, (OPh I, 396).
19. *Ibid.*, c.10, (OPh I, 387–88).
20. *Ibid.*, (OPh I, 389).
21. *Ibid.*, c.14, (OPh I, 397–98).

Ockham indicates how syllogisms of the second and third figures can be reduced to syllogisms of the first figure by some combination of converting premisses or conclusion, transposing the order of the premisses, or by arguments *ad impossibile* that derive from one premiss and the opposite of the conclusion the opposite of the other premiss.[22] Since 'No *P* is *M* ' and 'No *M* is *P* ' convert simply, "Festino" in the second figure reduces to "Ferio" in the first figure by converting its major premiss. Likewise, "Cesare" converts to "Celarent". Again, if we convert the minor premiss and conclusion of "Camestres" and transpose the premisses, yielding 'No *M* is *S*, All *P* is *M*; therefore no *P* is *S* ', we get "Celarent" in the first figure.[23] But "Baroco" is reduced to "Barbara" by an argument *ad impossibile*: for the contradictory of the conclusion 'Some *S* is not *P* ' is the *A* proposition 'All *S* is *P* ', which combines with the premiss 'All *P* is *M* ' to yield 'All *S* is *M* ', the contradictory of the other premiss 'Some *S* is not *M* '.[24]

Turning to moods of the third figure, Ockham says that these, too, can be reduced to some in the first figure by conversion and by arguments *ad impossibile*. Thus, since 'Some *M* is *S* ' converts simply with 'Some *S* is *M* ', "Datisi" in the third figure is reduced to "Darii" in the first figure by converting its minor. Likewise, "Ferison" to "Ferio". "Disamis" reduces to "Darii" by converting its major and conclusion and transposing its premisses to yield 'All *M* is *S*; some *P* is *M*; therefore some *P* is *S* '. "Darapti" reduces to "Darii" by the conversion *per accidens* of its minor—'All *M* is *S* ' to 'Some *S* is *M* '. Likewise "Felapton" to "Ferio". "Bocardo" cannot be reduced by converting its minor, because the resultant argument would lack a universal premiss and hence be invalid. But it can be reduced to "Barbara" by an argument *ad impossibile*: for the contradictory opposite of the conclusion—'All *S* is *P* '—combines with the minor 'All *M* is *S* ' to yield 'All *M* is *P* ', which is the con-

22. *Ibid.*, c.11, (OPh I, 393); c.14, (OPh I, 400–401).
23. *Ibid.*, c.11, (OPh I, 393).
24. *Ibid.*

tradictory opposite of the major.[25]

Sherwood defends the primacy of "Barbara" and "Celarent" over all others on the ground that "Darii" can be reduced *ad impossibile* to "Camestres", which in turn reduces to "Celarent", while "Ferio" reduces to "Cesare", which in turn reduces to "Celarent".[26]

In sum, then, syllogistic proper purports to elaborate a theory of two-premiss inferences that hold good for any subject matter. In addition, the reductions of second and third figure arguments to first figure arguments and that of first figure arguments to each other call on conversion rules for one premiss inferences and/or the general rule

(R1) In a good inference with two premisses, the opposite of the consequent together with one premiss implies the opposite of the other premiss.[27]

## 2. DEMONSTRATION

When Aristotle formulated his conception of an ideal science in the *Posterior Analytics*, he singled out a special type of syllogism—viz., the demonstration—as its vehicle of inferential knowledge. He defines 'demonstration' as 'a knowledge-producing syllogism', but the operative conception of knowledge has Platonic roots. In the middle dialogues at least, Plato held that spatiotemporal particulars that come to be and pass away and change constantly are proper objects of belief, while knowledge was only of the Forms, which are what they are in an unqualified sense and which exist eternally and immutably, separated from particulars and independently of any thought about them. Aristotle concedes that Plato's theory of knowledge is right on several points: First, the notion that knowledge properly speaking is of essences, their definitions,

25. *Ibid.*, c.14, (OPh I, 400–401).
26. *Op. cit.*, chap.4, sec.9, 67.
27. *Summa logicae* III–3, c.38, (OPh I, 728).

and relations among them. Second, that such knowledge is of causes. Third, that because essential connections are necessary, knowledge properly speaking is of what cannot be otherwise than it is. Fourth, since what pertains to man essentially, pertains to every man, knowledge properly speaking is universal.[28] Aristotle's model of a developed science was Euclidean geometry, which proceeds from axioms, postulates, and definitions to theorems by means of demonstrations. But he hoped to extend this paradigm to astronomy, physics, and biology as well. Rejecting separately existing Platonic Forms, Aristotle insisted that natures had a mind-independent existence in reality in particulars. If Socrates and Brownie come into being and pass away, are contingent and changing, nevertheless, the species will exist in some particulars or other eternally; and what it is to be a man or a donkey cannot be otherwise than it is. We have noted the conclusion of moderate realists like Burleigh and Scotus that if astronomy, physics, and biology are to be about what is real, natures must be universal or common in reality (Part One, chapter 2).

If any demonstration is a *knowledge-producing* syllogism, it follows that the conclusion must not be so obvious that anyone who formulates it cannot help assenting to it (i.e., it cannot be a proposition known *per se*; see Part Three, chapter 13 below) the way 'If a man exists, an animal exists' is. In Ockham's terms, the conclusion must be "susceptible of doubt" (*dubitabilis*) and "a question."[29] Note that the conclusion must actually be doubted by anyone who has not considered the premisses. For there may be more than one way to demonstrate a given proposition, and some demonstrable propositions can be known from experience. A person who knows it one way will not hold the conclusion in doubt until he learns it another way But the conclusion must be such that a person ignorant of any such demonstration could both formulate the conclusion and doubt it. Further, it must be possible that someone should be

28. *Posterior Analytics* I, 2, 71b10; 6, 74b5–17, 75a13–17.

29. *Summa logicae* III–2, c.9, (OPh I, 521–22); *Ord.*, Prologue, q.2, (OTh I, 76).

caused to know it for the first time and do so through knowing the premisses.[30] Hence, it must not be the case that knowledge of the conclusion is necessary for knowledge of the premisses.[31]

Since knowledge properly speaking is of causes, the ideal demonstration (called the "*demonstratio potissima*") will be one whose premisses explain the truth of the conclusion by signifying the cause of what the conclusion signifies.[32] Because such demonstrations not only prove the fact (*quia est*) but also give the explanation (*propter quid est*), they are called "demonstrations *propter quid*"; and because the cause is prior to the effect, they are said to be *a priori*.[33] Aristotle maintains that since these explanations will be in terms of essential connections, and since the essence is both universal and affirmative, the most scientific form of demonstration will be Barbara:[34]

"Barbara"

| | | |
|---|---|---|
| *Major Premiss:* | *A* | Every *M* is *P* |
| *Minor Premiss:* | *A* | Every *S* is *M* |
| *Conclusion:* | *A* | Every *S* is *P* |

And he holds that the explanation will be best provided when the major term '*P*' is a *passio* of the minor '*S*' and the middle '*M*' while the middle '*M*' is a definition of the minor '*S*'.[35]

Ockham notes that by 'definition', Aristotle does not mean 'nominal definition' (even in the broad sense according to which both absolute and connotative terms have nominal

30. *Summa logicae* III–2, c.11, (OPh I, 524–25); *Ord.*, Prologue, q.2, (OTh I, 77).

31. *Summa logicae* III–2, c.16, (OPh I, 531–32).

32. *Ibid.*, c.15, (OPh I, 530).

33. *Ibid.*, c.17, (OPh I, 533).

34. *Posterior Analytics* I, 14, 79a17–33; cf. Ockham, *Ord.*, Prologue, q.5, (OTh I, 165).

35. *Summa logicae* III–2, c.2, (OPh I, 507).

definitions; see Part Two, chapter 10 above). For where the minor premiss states the nominal definition of the minor term, the same mental proposition will correspond to the major premiss and the conclusion, and the argument will beg the question. Likewise, if the major expresses the nominal definition of the *passio* the same mental proposition will correspond to the minor premiss and the conclusion, and the question will again be begged. Rather in affirmative categorical demonstrations, knowledge that the nominal definitions of all three terms are consistent is presupposed for the demonstration.[36] What Aristotle intends is that the middle '*M*' should be (all or part of) the real definition of '*S*', which expresses the essential parts of the things signified by '*S*'.[37]

Ockham emphasizes that so far as logic is concerned, "a *passio* is not an extramental thing inherent in the subject" but "only something predicable of its subject *per se* the second way."[38] Aristotle had distinguished two ways in which one term may be predicated *per se* of another: "one when the predicate occurs in the definition of the subject; the other when the subject occurs in the definition of the predicate."[39] His examples are from mathematics: 'line' is predicated of 'triangle' *per se* the first way because the former occurs in the defintion of the latter; but 'straight' or 'curved' is predicated of 'line' *per se* the second way because the latter occurs in the definition of the former. Similarly, 'odd' and 'even' are predicated of 'number' *per se* the second way. In *Summa logicae* III–2, c.7, Ockham recognizes a broader sense, according to which terms are predicable *per se* not only of the terms they define or the terms that define them, but also of terms inferior to the latter.[40] Thus,

36. *Ibid.*, c.12, (OPh I, 525); c.3, (OPh I, 508–509).

37. *Ord.*, Prologue, q.5, (OTh I, 166).

38. *Summa logicae* I, c.37, (OPh I, 105); cf. III–2, c.2, (OPh I, 507–508) and *Ord.*, Prologue, q.3, (OTh I, 133–36).

39. *Summa logicae* III–2, c.7, (OPh I, 515); cf. *Posterior Analytics* I, 4, 73a34–73b1.

40. Recall that one term '*F*' is inferior to another '*G*' if and only if '*x* is *F*; therefore *x* is *G*' is a good formal inference, but '*x* is *G*; therefore *x* is *F*' is not.

'substance' will be predicable *per se* the first way not only of 'body' but also of 'man'. Likewise, 'susceptible of contraries' is predicable *per se* the second way not merely of 'substance' but also of 'man'.[41] But the defined and defining terms are the "first subjects" of the predicates in question.

According to Aristotle's idealized picture of scientific inquiry, then, we begin by wondering whether (*si est*) and if so for what reason (*propter quid est*) every *S* is *P*. The best way to answer both questions is to find some feature '*M*' that either is mentioned in the real definition of '*S*', or something superior to '*S*', or '*M*' is superior to (follows by a formal inference from) something that is *P* and that either occurs in the definition of '*P*' or something inferior to '*P*', or is inferior to something that does (something that does follow by a formal inference from it). Where these conditions are satisfied, the fact that every *S* is *P* will be explained in terms of an essential connection between being *S* and being *M*, and being *P* and being *M*. And the explanation will be even better if '*M*' is the first subject of '*P*', because in that case being *M* will be that without which nothing is *P* and with which anything is *P*.[42]

Ockham finds this picture oversimple and attributes it to Aristotle's focus on mathematical models. In fact, the Philosopher did not really mean to say that the definition of the subject is always the middle term. For the class of secondary subjects is even wider than has been thus far suggested. In the Prologue to the *Ordinatio*, Ockham recognizes them to include not only terms inferior to the first subject, but also terms superior to it (so that 'isosceles' can be predicated not only of 'isoceles triangle' but also of 'triangle'), terms that signify a whole of which the first subject signifies a part (e.g., 'intellectual soul' is the first subject of 'capable of instruction', while 'man' is a secondary subject), and terms that signify something that sustains as an inherent form what is signified by the first subject (e.g., 'heat' is the first subject of 'calefactive', while 'fire'

41. (OPh I, 517).
42. *Ord.*, Prologue, q.4, (OTh I, 144–45).

is a secondary subject).[43] Thus, when 'capable of instruction' is demonstrated of 'man', it is not the definition of 'man', but the definition of 'intellectual soul' that occurs as the middle term, since the latter is the first subject of the *passio* 'capable of instruction'.[44]

Further, according to Ockham, Aristotle did not mean to suggest that every *passio* is demonstrable of its first subject. For while *passiones* are alike connotative terms that signify directly what their subjects signify, they divide into four groups on the basis of their oblique signification. (i) Those in the first group signify obliquely a form that really inheres in what the subject signifies. For example, 'colorable' has the nominal definition 'something that can have color' and obliquely signifies really inherent color qualities. Such *passiones* can be known to pertain to their first subjects only by experience.[45] (ii) The second group obliquely signify things that are neither essential parts of nor really inherent in what their first subjects signify. For example, 'God is creative' asserts this sort of *passio* of 'God', because 'creative' obliquely signifies neither an essential part of God nor any accident inhering in Him, but the really distinct things that He makes out of nothing. These *passiones* cannot be demonstrated of their first subjects either but can be known to pertain to them only through experience.[46] (iii) *Passiones* of the third type obliquely signify parts of what the subject signifies and something that does not inhere in it. For example 'what has three angles equal to two right angles' signifies a triangle directly and obliquely signifies its parts and other angles (viz., the two right angles) that are not part of it.[47] And (iv) *passiones* of the fourth type signify the parts of what the subject signifies negatively and obliquely. For example, 'corruptible' has the nominal definition 'something whose parts can not exist or one

43. Q.4, (OTh I, 148).

44. *Ibid.*, q.5, (OTh I, 165–66); *Summa logicae* III–2, c.12, (OPh I, 527).

45. *Ibid.*, (OPh I, 526–27); *Ord.*, Prologue, q.4, (OTh I, 144).

46. *Summa logicae* III–2, c.12, (OPh I, 526–27); c.35, (OPh I, 573–74); *Ord.*, Prologue, q.1, (OTh I, 50–51); q.4, (OTh I, 150–51).

47. *Summa logicae* III–2, c.12, (OPh I, 526).

of whose parts can be separate from the other' and so signifies substance directly and its parts negatively and obliquely.[48] Ockham says that *passiones* of the last two types can be demonstrated of their first subjects. It is these that are involved in mathematical demonstrations, and in such cases the definition of the subject is always or frequently the middle term,[49] as Aristotle says. Further, whether or not *passiones* can be demonstrated of their first subjects, they can be demonstrated of secondary subjects, using the first subject or a concrete term corresponding to the first subject as the middle. For example, 'Every being is one; God is a being; therefore God is one' can be a demonstration[50] and "perhaps" 'Every being is good; God is a being; therefore God is good'.[51] Again, 'heat' is the first subject of 'calefactive' and from 'Every heat is calefactive' we can derive 'Every hot is a calefactive' to which we can add 'Every fire is hot' as the minor to conclude 'Every fire is calefactive'.[52] And 'Every triangle has three; and isosceles is a triangle; therefore an isosceles has three',[53] and 'Everyone having an intellectual soul is capable of instruction; every man has an intellectual soul; therefore every man is capable of instruction'.[54]

According to Aristotle, knowledge properly speaking is of what cannot be otherwise than it is. Hence the conclusion of any demonstration must be necessary. And although "you can in fact infer the necessary even from a non-necessary premiss, just as you can infer the true from the not true,"[55] still the premisses of a demonstration must be necessary. For they are supposed to be a basis not only for knowing some proposition which is necessary, but for knowing that it is necessary. In the case of a demonstration *propter quid*, they are supposed to explain not

48. *Ibid.*
49. *Ibid.*, (OPh I, 527); *Ord.*, Prologue, q.4, (OTh I, 150–51).
50. *Summa logicae* III–2, c.37, (OPh I, 576).
51. *Ord.*, Prologue, q.2, (OTh I, 115).
52. *Summa logicae* III–2, c.38, (OPh I, 577–78).
53. *Ord.*, Prologue, q.2, (OTh I, 120); q.4, (OTh I, 148).
54. *Ibid.*, q.2, (OTh I, 120).
55. *Posterior Analytics* I, 6, 75a2–4.

only why what the conclusion signifies is a fact, but why it is a necessary fact.[56] Because he believed that species really exist eternally and necessarily, Aristotle saw no difficulty in the categorical assertoric propositions of 'Every *M* is *P*, every *S* is *M*; therefore every *S* is *P* ' meeting this condition.

The possibility of any "Aristotelian" science about created things seemed challenged by the Christian doctrine of creation, however. For according to it,

(A) God exists necessarily and everything else exists by His free and contingent volition.

Hence, that any creatures of a given species really exist is a matter of God's free and contingent choice. If propositions of the form 'Every *S* is *M* ' entail propositions of the form '*S* 's exist' and '*M* 's exist', then the *A*-proposition cannot be necessary unless the existential assertions are. It seems to follow that none of the propositions in Aristotle's paradigm scientific syllogism is necessary, where the names of created natures, their definitions and *passiones* are substituted for '*S* ', '*M* ', and '*P* '.

Ockham noticed this problem and admits that no assertoric syllogism in Barbara—or for that matter any that includes an affirmative premiss or conclusion—could count as a demonstration about corruptible things. He writes,

> ...although it is incompatible with Aristotle's claims, it is nevertheless true that no proposition formed from [terms] that signify corruptible things only and that is merely affirmative and merely categorical and merely present tense, can be the premiss or conclusion of a demonstration, since any such proposition is contingent...[57]

Nor is Ockham willing to revise his truth conditions and construe 'Man is a rational animal' as a covert conditional equivalent to 'If a man exists, a man is a rational animal', since this would obliterate the distinction between categoricals

56. *Ibid.*, 75a13–18, cited by Ockham, *Summa logicae* III–2, c.5, (OPh I, 512).

57. *Summa logicae* III–2, c.5, (OPh I, 512–13).

and conditionals.[58] Nevertheless, he refuses to conclude that physics and biology cannot be Aristotelian sciences, since

> ...many propositions composed from such terms can be the premisses or conclusions of a demonstration. For the conditional propositions or their equivalents can be necessary. For the proposition 'If a man exists, an animal exists' and the proposition 'If a man laughs, an animal laughs', and the proposition 'Every man can laugh', where the subject stands for those that can be, and propositions likewise equivalent to them are necessary.[59]

Thus, "the propositions formed from terms that signify such contingent things and that enter into a demonstration are necessary and not merely present tense and assertoric, categorical and affirmative, but are either negative or molecular or *de possibile* or some other mode or equivalent."[60]

Unfortunately, Ockham does not pursue any of these proposals systematically or in detail. Given his extensive treatment of modal syllogisms in *Summa logicae* III–1 (44 chapters), one might expect him to favor the modal approach, replacing the present tense assertoric syllogism

> Every hot thing is calefactive.
> Every fire is hot.
> Therefore, every fire is calefactive,

whose premisses and conclusions are contingent, because it is contingent that any fire or hot things exist and contingent that any heat inheres in fire, with the *de possibile* syllogism

> It is possible that every hot thing is calefactive.
> It is possible that every fire is hot.
> Therefore, it is possible that every fire is calefactive,

58. *Ibid.*, (OPh I, 513).
59. *Ibid.*
60. *Ibid.*, (OPh I, 513–14).

whose premisses and conclusion are necessary but still about things that are by nature susceptible to generation and corruption.

Nevertheless, this proposal carries heavy costs. For the premisses and conclusion of the *de possibile* syllogism have to be distinguished with respect to composition and division. Where all are taken in the sense of composition, the inference is not formally valid (as can be seen by substituting 'man' for '*S*', 'white thing' for '*M*', and 'donkey' for '*P*' in 'It is possible that every *M* is *P*; it is possible that every *S* is *M*; therefore it is possible that every *S* is *P*'.[61] If the propositions are taken uniformly in the sense of division, they must once again be distinguished as to whether their subject terms supposit for those that are for those that can be (see Part Two, chapter 11 above). And only the second construal removes the originally troublesome implication that generable and corruptible things actually exist. The resultant inference *is* formally valid,[62] but the conclusion tells us rather less than we wanted to know. Cast anachronistically into possible worlds semantics, it asserts only that there is a possible world *w* in which fire exists, and every fire in *w* is such that in some possible world *w'* (which may or may not be identical with *w*) it is calefactive, whereas the natural scientist had hoped to show that every fire (if any) *in the actual world* has the power (*virtus*) to produce heat (is calefactive) *in the actual world*. The necessity of the premisses and conclusion has thus been bought at the price of considerable information!

To be sure, Ockham has the resources to extract more from such conclusions. For (as we shall see in detail in Part Four, chapter 18 below) if he denies that any created nature is necessarily instantiated, he retains the Aristotelian assumption that being of a certain species is what makes a thing to be a certain causal power (*virtus*). Hence, if heat is capable of producing heat and so is the power (*virtus*) to produce heat, it is so by its

61. Cf. *ibid.* III–1, c.23, (OPh I, 419).
62. *Ibid.*, (OPh I, 420).

very nature. And by the Uniformity of Nature Principle, if this heat is the power (*virtus*) to produce heat, so is every other. But since what is of a given species cannot exist without being a member of that species, the causal powers of a given thing will not vary from possible world to possible world. Thus, given the *de possible* proposition 'It is possible that every hot is calefactive', we can derive 'Necessarily, if something is a hot thing, it is calefactive', and further 'Necessarily, if fire is a hot thing, it is calefactive'. Nevertheless, such repairs will not restore the Aristotelian ideal of a demonstration that will display the desired ultimate conclusion together with its explanation in a single valid syllogism.

These observations suggest that Ockham could better rehabilitate demonstrations *propter quid* with conditional than with *de possibile* propositions, since the former can assert essential connections as well as assertoric categorical propositions, while the latter cannot. Thus, 'Every hot thing is calefactive, and every fire is hot; therefore every fire is calefactive' could be replaced with 'If something is hot, it is calefactive, and if fire has heat, it is hot; therefore, if fire has heat, it is calefactive', all of whose propositions are necessary. Likewise 'Every substance is susceptible of contraries, and evey man is a substance; therefore every man is susceptible of contraries' can be replaced with 'If anything is a substance, it is susceptible of contraries, and if anything is a man, it is a substance; therefore if anything is a man it is susceptible of contraries', and 'Everything that has an intellectual soul is capable of instruction, and every man has an intellectual soul; therefore every man is capable of instruction' with 'If anything has an intellectual soul, it is capable of instruction, and if anything is a man, it has an intellectual soul; therefore if anything is a man, it is capable of instruction'. Sometimes Ockham does mention syllogisms involving temporal conditions—e.g., 'Whenever the earth is in between the sun and the moon, the moon is eclipsed; and whenever the sun is in such and such a position and the moon in such and such a position, then the earth is in between

the sun and the moon; therefore, then the moon is eclipsed'.[63] But following Aristotle, his focus there is on phenomena that happen sometimes and not others and so are not universal with respect to time. Clearly, he does not envision conditional syllogisms as the paradigms of demonstrations *propter quid* when he devotes over 54 chapters to categorical syllogisms and allots only sixteen lines to syllogisms involving molecular propositions,[64] leaving it to the reader to adapt his remarks about categoricals to conditionals.

After examining ideal demonstrations (demonstrations *propter quid* and *a priori*) that give knowledge of a necessary truth together with its explanation, Aristotle recognizes other demonstrations (demonstrations *quia*) which give knowledge of the fact only.[65] Ockham explains that "a demonstration *propter quid*" is one "which is from necessary and prior propositions and which puts a stop to every doubt and every question about the conclusion," while "a demonstration that either does not proceed from prior premisses or does not put a stop to every question about the conclusion."[66] Borrowing from Aristotle's illustrations, Ockham offers 'When the moon is in such and such a position, then the moon is eclipsed; the moon is now in such and such a position; therefore the moon is eclipsed now' as an argument *propter quid* and *a priori*, from cause to effect, whereas 'When the moon is eclipsed, the earth is in between the sun and the moon; the moon is eclipsed now; therefore the earth is in between the sun and the moon' as an argument *a posteriori*, from effect to cause.[67] (Ockham warns that neither is it strictly speaking a demonstration, because 'The moon is eclipsed now' is a contingent premiss; the examples are taken merely because they illustrate the contrast between *a*

63. *Ord.*, Prologue, q.4, (QTh I, 154–55); cf. *Summa logicae* III–2, c.15, (OPh I, 530–31); c.17, (OPh I, 532–34); c.19, (OPh I, 536–37).

64. *Ibid.* III–1, c.68, (OPh I, 501–502).

65. *Posterior Analytics* I, 13, 78a22ff.

66. *Summa logicae* III–2, c.19, (OPh I, 536).

67. *Ibid.*, c.17, (OPh I, 533).

*priori* and *a posteriori*.[68] On the other hand, the syllogism 'No non-animal breathes; a plant is a non-animal; therefore a plant does not breathe' is *a priori*, since it is from cause to effect. But it is not *propter quid*, because it does not give the immediate positive cause why a plant does not breathe.[69]

## 3. DIVISIONS AMONG INFERENCES

Ockham's acceptance of the traditional syllabus has introduced an apparent disorganization into his discussion of arguments. For Part III plunges us immediately into extensive treatments of the syllogism (III–1) and demonstration (III–2). To find general remarks about the relation of inference, we have to turn back to his sketch chapter on conditional propositions (II, c.31), and his ninefold division among inferences in general is postponed until the outset of III–3. In the first of these passages, Ockham makes it clear that he regards conditional propositions of the form 'if $p$, then $q$' 'not $p$ unless $q$' as equivalent to inferences of the form '$p$; therefore $q$'. Accordingly, he says that 'a conditional proposition is true, when the antecedent implies (*infert*) the consequent, and not otherwise',[70] so that the conditions under which inferences do or do not hold good are the same as those under which conditional propositions are true or false. In the chapter on conditional propositions, he says something about what is *not* necessary for the truth of a conditional proposition: viz.,

> ...neither the truth of the antecedent nor the truth of the consequent is required for the truth of a conditional. In fact, sometimes the conditional is necessary, and each of its parts is impossible. For example, the proposition 'if Socrates is a donkey, Socrates is capable of braying'.[71]

And at the end of his discussion of inferences, he lays down the

68. *Ibid.*
69. *Ibid.*, c.19, (OPh I, 537); c.20 (OPh I, 538).
70. *Ibid.* II, c.31, (OPh I, 347).
71. *Ibid.*

general rule that

> The false never follows from the true, and therefore whenever the antecedent is true and the consequent false, the inference does not hold good,[72]

thereby making it necessary for the truth of a conditional proposition or validity of an inference that

(A) It is not the case that the antecedent is true and the consequent false.

An attractive hypothesis[73] sees Ockham as making (A) *definitive* of the fundamental relation of inference and distinguishing subordinate "species" under this "genus" by the stipulation of other, non-truth functional criteria.[74] Difficulties in making out this contention will be examined below.

As for their divisions, Ockham classifies inferences on the basis of their terms—whether they are first or second intentions[75] and whether they have personal, simple, or material supposition[76]—and on the basis of the quantity,[77] quality[78] and modality[79] of the propositions. And while the latter help to articulate Ockham's discussion in succeeding chapters,[80] the first three—between inferences that hold good by intrinsic or by extrinsic means, between formal and material inferences, and between simple and as-of-now inferences—are the most important.

72. *Ibid.* III–3, c.38, (OPh I, 727).

73. This claim was first made by Boehner in "Does Ockham Know of Material Implication?" in *Collected Articles of Ockham*, #19, 319–351, and later defended by me in "Did Ockham Know of Material and Strict Implication? A Reconsideration," *Franciscan Studies* N.S. XXXIII (1973): 5–37.

74. Eleonore Stump summarizes my position this way in her 1980 lectures to the Council for Philosophical Studies Seminar on Medieval Logic.

75. Fourth distinction, *Summa logicae* III–3, c.1, (OPh I, 590).

76. Fifth distinction, *ibid.*

77. Sixth distinction, *ibid.*

78. Seventh and eighth distinctions, *ibid.*

79. Ninth distinction, *ibid.*

80. *Ibid.*, c.2–9.

I suggest that the controlling interest among Ockham's deviant and untidy versions of them is his desire to subsume enthymemes under the rubric of formal inferences by indicating how they can be reduced to syllogisms. Let us test these hypotheses by examining each division in turn.

(3.1) *Intrinsic versus Extrinsic Means.* The division between intrinsic and extrinsic means has its historical roots in discussions of the topics. Boethius and Cicero divided the art of discourse into dialectic, the art of finding arguments, and logic, the art of judging them.[81] Aristotle's *Topics* had dealt with the former and constituted an attempt to systematize the method of dialectic in Plato's dialogues.[82] And in *De topicis differentiis*, Boethius summarizes the efforts of Themistius and Cicero at further simplification. Begin with the question, "Is *S P*?" or "Is it the case that *S* is *P*?" In debate one must give an affirmative or negative answer and defend it with arguments. Themistius undertook to aid the disputant by providing a convenient catalogue of places (*topoi*; *loci*) where such arguments might be sought. In trying to prove a connection (lack of connection) betwen *S* 's and *P* 's, one may look either to "the substance of the terms" '*S* ' and '*P* ' for "intrinsic grounds" or to what is outside and separated from them for "extrinsic grounds." Primary among intrinsic grounds would be the *definition* or *description* of absolute terms (see Part Two, chapter 10 above) or the *interpretation of the name* for connotative terms. For example, if the question is whether whiteness is a substance, the disputant may appeal to the maxim "whatever the definition/description/interpretation is predicated of (denied of) the term defined/described/interpreted is predicated of (denied of)" and, recalling that substance is described as that which can be the substance of any accident, conclude that since whiteness is the

81. For this point and for otherwise helpful discussions of the topics, see Otto Bird, "The Tradition of the Logical Topics: Aristotle to Ockham," *Journal of the History of Ideas* XXIII (1962): 307–323, and Eleonore Stump, *Boethius's 'De topicis differentiis'*, Book I, 29.

82. See Stump, *op. cit.*, 13–26.

subject of no accident, whiteness is not a substance.[83] Other intrinsic grounds are taken not from the substance but from things that go together with it. For example, the disputant may consider whether *S*'s are (universal, integral, quantitative, modal, spatial, or temporal) *wholes* of which *P*'s are *parts*, or vice versa. If the question is whether God exists here and now, the disputant can appeal to the maxim "what suits the whole fits the part" and reason that since God exists everywhere and always, He exists here and now.[84] Again, the disputant may inquire about the *causes* or *effects* of *S*'s and *P*'s to see if they somehow connect or exclude one from another. If the question is whether the Moors have weapons, the disputant may recall that weapons are made of iron and appealing to the maxim "if the material cause is lacking, the thing made from it is also lacking," conclude that since the Moors lack iron, they lack weapons.[85] Finally, other intrinsic grounds are taken from *concomitant accidents*, *uses*, the *generation* and the *corruption* of substance, yielding maxims "if the use/generation of a thing is good (bad), the thing is good (bad)" and "if the destruction of a thing is good (bad), the thing is bad (good)."[86]

Extrinsic grounds comprise a still more diverse collection. For they include (contrary, relative, privative, and contradictory) *opposites* that lie so far outside the substance of the terms as to be incompatible with it. As an illustration, a disputant asked whether virtue is praised, might appeal to the maxim "contraries are suited to contraries," and argue that since virtue is contrary to vice and vice is reviled, virtue is praised. Likewise, faced with whether seeing is a proprium of those who have eyes, he might conclude that it is not, calling on the maxim "where the privation can be present, the possession is not a proprium" and observing that the blind have eyes and do not see.[87] Then there is a group of strategies that yield what might, broad-

83. *De topicis differentiis*, Book II, (Stump ed., 50).
84. *Ibid.*, 52–53.
85. *Ibid.*, 53.
86. *Ibid.*, 53–54.
87. *Ibid.*, 56.

ly speaking, be called arguments from analogy.[88] For a disputant might argue from *the more/greater* to *the less/lesser*, using the maxims "if what seems more to inhere does not inhere, what seems less to inhere does not inhere" (e.g., if a king cannot take the castle, neither can a knight) and "if what seems less to inhere does inhere, so does what seems more to inhere" (e.g., if the knight can take the castle, so can the king). Again, there are arguments from *proportion*: e.g., asked whether the ruler of a city should be chosen by lot, a disputant might argue that they should not, given that even pilots of ships should not be chosen by lot.[89] Again, there are arguments *from* quantitative or qualitative *similarity*. Again, there is an argument *from transumption* when the question is transferred from what is less known to what is more known. Transumption from one thing to another occurs in the *Republic* when Socrates approaches the question of justice in the republic by looking at justice in the individual. Transumption from one word to another occurs when an obscure term is replaced with a familiar one: e.g., if you ask whether a philosopher is envious, the question is replaced with whether a wise man is envious.[90] Finally, there are arguments from *authority* or *judgment* which appeal to the maxim "what seems true to everyone or the many or the wise should not be gainsaid."[91]

Not finding the division between intrinsic and extrinsic grounds entirely exhaustive, Themistius also lists some *intermediate grounds*. First, there is a "*case*" or the inflection of a principal name into an adverb. For example, 'justice' is inflected into 'justly', and one can legitimately reason that since justice is good, what is done justly is good. Similarly, *conjugates* are drawn from the same thing in different ways—e.g., 'justly' and 'just' from justice. And the argument 'if what is done justly is good, what is just is good' holds good. Finally, there are arguments from *division* or exclusive disjunction, which form

88. As Bird notices, *op. cit.*, 316.
89. Boethius, *De topicis differentiis*, Book II, 55.
90. *Ibid.*, 56–57.
91. *Ibid.*, 54.

the basis of disjunctive syllogisms.[92]

Boethius calls 'description', 'whole', 'cause', 'generation', 'contraries', 'authority', 'cases', and the like the "differences of the topics," whereas the self-evident propositions such as 'whatever the description is predicated of, the described term is predicated of' and 'contraries are suited to contraries' are called "maximal propositions."[93] At first, emphasis was put on their use in *finding* arguments, but gradually maximal propositions came to be treated more as warrants for inferences, usually one-premiss inferences. Thus, Peter of Spain gives substantially the same catalogue of topics as Themistius does, but the context of looking for arguments in a debate has disappeared.[94] Further, Peter of Spain is more concerned to list topical maxims than Boethius; he states 81 where Boethius offered 25.[95] William of Sherwood repeats the tabulation in his discussion of dialectical syllogisms. While he does identify the differentiae and maximal propositions as sources of arguments to settle questions, he also indicates—in every case but definition, description, and the interpretation of a name—how the one-premiss inference in question could be reduced to a syllogism.[96] And he even construes the division between intrinsic, extrinsic, and intermediate topics as one among the sorts of middle terms involved in such reductions. Thus, he writes that the topics

> are also divided into intrinsic, extrinsic, and mediate grounds, [a division] which is understood the following way. When there is some doubt about a proposition, we first put it in the form of a question; then we find a middle term; and then we syllogize it, either affirmatively or negatively. So when the argument is extracted from an internal property of one of the terms in question, the ground is called intrinsic; when from an extrinsic property the grounds are called extrinsic; when from a mediate property, the ground is called mediate.[97]

92. *Ibid.*, 57–58.
93. *Ibid.*, 47–48.
94. *Tractatus* V, (De Rijk ed., 55–78), as Stump notes, *op. cit.*, 235–36.
95. As Bird says, *op. cit.*, 313.
96. *Introduction to Logic*, chap.4, 69–102.
97. *Ibid.*, sec.2, 71.

Topical maxims serve as inference warrants because such middles are available for syllogistic reductions.

Ockham has so reworked these materials from the Boethian topics in *Summa logicae* III–3, c.2–9, that their traditional source is easy to miss.[98] To begin with, some traditional labels are entirely missing. Unlike both his predecessors—Peter of Spain and William of Sherwood—and his successors—Albert of Saxony,[99] John Buridan,[100] and the authors of the *Tractatus logicae minor*[101] and *Elementarium logicae*[102]—Ockham never mentions "topics" by name but incorporates the entire discussion as a subdivision of nonsyllogistic inferences.[103] Further, he does not speak in the traditional way of "maximal propositions" or "maxims" but offers "rules" of inference instead. Interestingly, some of his successors combine both usages, as when the author of the *Tractatus logicae minor* describes a topic as "*a maximal proposition*, that is *a rule* from which an argument is drawn and holds and can be proved"[104] and when Albert of Saxony declares that "*a topical maxim* is

98. I did in my article "Did Ockham Know of Material and Strict Implication? A Reconsideration," 15–21, when I dismissed the distinction between intrinsic and extrinsic means as "of interest, not so much for its own sake, but because it is the basis for Ockham's third distinction between formal and material inferences" (15). Bird remarks on the transformation of the materials from the topics by Ockham in "The Tradition of the Logical Topics: Aristotle to Ockham," 317, and in "Topic and Consequence in Ockham's Logic," *Notre Dame Journal of Formal Logic* II (1961): 65–78, especially 68–69.

99. *Perutilis logicae*, (Venice, 1522; repr. Hildesheim, 1974), Tractatus quartus, c.19–24, fol.32vb–37rb.

100. *Compendium totius logicae*, (Venice, 1499), Tractatus sextus, unpaginated and unfoliated.

101. Eligius M. Buytaert, "The *Tractatus logicae minor* of Ockham," *Franciscan Studies* N.S. XXIV (1964): 34–100, Liber V, 'De locis et regulis consequentiarum,' 77–81.

102. Eligius M. Buytaert, "The *Elementarium logicae* of Ockham," *Franciscan Studies* N.S. XXV (1965): 151–276, Liber VI, 'De locis,' 253–276.

103. *Summa logicae* III–3, c.1, (OPh I, 587).

104. Liber V, 'De locis et regulis consequentiarum,' (Buytaert ed., 77).

said to be *a rule* that can confirm and prove an inference."[105]

More importantly, Ockham's presentation of the rules is organized in a completely different way. Where earlier authors followed the syllabus of the Boethian topical differences and listed all the maxims of a given topical difference together, Ockham's focus is on types of inferences, and he catalogues inference rules in accordance with the above mentioned ninefold distinction. Thus, he first lists rules for inferences with affirmative premisses and universal conclusions that hold for all[106] or for only some[107] predicates; then those for inferences with a universal negative conclusion that hold for all[108] or for only some[109] predicates; then those for inferences involving particular or indefinite propositions;[110] then rules for inferring an affirmative from an affirmative by an extrinsic mean;[111] those for inferring negatives from negatives;[112] and finally for inferring a negative from an affirmative or vice versa.[113] In this presentation, for example, rules for the intrinsic topic relatives and the intrinsic topics whole and part and the intermediate topic of conjugates get classified together under rules for inferences with universal affirmative conclusions that hold for some predicates only[114] and rules for the intrinsic topics definition, description, and interpretation are scattered among the chapters on different quantities and qualities.[115]

Given all these changes, it is not suprising that Ockham's distinction between intrinsic and extrinsic means has shifted considerably from the traditional division among intrinsic, extrinsic, and intermediate topics. His explicit account of it in

105. *Op. cit.*, Tractatus quartus, c.19, fol.33ra.
106. *Summa logicae* III-3, c.2.
107. *Ibid.*, c.3.
108. *Ibid.*, c.4.
109. *Ibid.*, c.5.
110. *Ibid.*, c.6.
111. *Ibid.*, c.7.
112. *Ibid.*, c.8.
113. *Ibid.*, c.9.
114. *Ibid.*, c.3, (OPh I, 596–98).
115. *Ibid.*, c.2, 4, 6, 8.

*Summa logicae* III–3, c.1, runs as follows:

> ...the inference holds by intrinsic means when it holds by virtue of a proposition formed from the same terms. For example, the inference 'Socrates does not run; therefore a man does not run' holds good by virtue of the mean 'Socrates is a man'. Thus, if the proposition 'Socrates is a man' were not true, the inference would not hold good. An inference holds by extrinsic means, however, when it holds by a general rule that has no more to do with these terms than with others. For example, the inference 'Only a man is a donkey; therefore every donkey is a man' does not hold by means of a true proposition formed from the terms 'man' and 'donkey' but by the general rule 'The exclusive and universal from transposed terms signify the same and convert'. And all syllogisms hold through such means.[116]

Responding to the objection that

> the inference 'Socrates does not run; therefore a man does not run' holds through the extrinsic mean 'The inference from the singular to the indefinite with a negation afterwards hold good'...,

Ockham grants that

> it does hold through the extrinsic mean remotely, mediately, and inadequately, since besides this general rule more is required—viz., that Socrates is a man. Therefore, it holds more immediately and more adequately through the mean 'Socrates is a man', which is an intrinsic mean.[117]

Whereas traditionally, the adjectives 'intrinsic', 'extrinsic', and 'intermediate' modified 'topics' and alternatively classified differentiae or metalinguistically stated maximal propositions, Ockham uses the term 'intrinsic mean' to refer to the object-language proposition 'Socrates is a man' in which a term from the conclusion is predicated of a term from the premiss of the original inference 'Socrates does not run; therefore a man does not run', while 'extrinsic mean' stands for general metalinguistic rules such as 'The exclusive and universal from

116. (OPh I, 588).
117. (OPh I, 588–89).

transposed terms signify the same and convert' and 'The inference from the singular to the indefinite with a negation afterwards' holds good.

One commentator[118] maps Ockham's procedure onto traditional discussions by seeing ⌜extrinsic means as analogous to topical maxims⌝ and ⌜intrinsic means as roughly analogous to topical differences⌝. Consider the inference 'No animal is running; therefore no donkey is running'. On Peter of Spain's scheme, we see that it holds good by realizing that 'animal' is the *genus* of 'donkey' and locating the maxim 'Whatever is removed from the genus is removed from the species' under the topical difference genus; so that there are three factors involved:

*The Inference*: 'No animal is running; therefore no donkey is running'

*Topical Difference*: Genus—'Animal' is the genus of 'donkey'

*Topical Maxim*: Whatever is removed from the genus is removed from the species.

Ockham cites this inference as an example under the rule 'Negatively from a distributed superior to a distributed inferior there is a simple inference'.[119] The suggestion is that for Ockham the latter general rule is an extrinsic mean, and we are informed that it applies—that 'animal' is *superior* to 'donkey'—by the intrinsic mean 'Every donkey is an animal'. Once again, three factors are involved:

*The Inference*: 'No animal is running; therefore no don-

118. Otto Bird makes this proposal in "The Tradition of the Logical Topics: Aristotle to Ockham," 318–320, and also in "Topic and Consequence in Ockham's Logic," 70–73.

119. *Summa logicae* III–3, c.4, (OPh I, 598).

key is running'

*Intrinsic Mean:* 'Every donkey is an animal'

*Extrinsic Mean:* 'Negatively from a distributed superior to a distributed inferior there is a single inference'.

Applying this analysis to Ockham's example in *Summa logicae* III–3, c.1, we get

*The Inference:* 'Socrates is not running; therefore a man is not running'

*Intrinsic Mean:* 'Socrates is a man'

*Extrinsic Mean:* 'The inference from a singular to an indefinite with the negation afterwards holds good'.

The inference does not hold good by the extrinsic mean immediately or adequately, because without the intrinsic mean we do not know that the extrinsic mean applies to the inference in question.

This proposal faces several difficulties, however. First, it fails to explain the anomalous identification of intrinsic means with object-language propositions "formed from the same terms" as the premiss and conclusion of the original inference. If Ockham intended intrinsic means to inform us of which general rule might apply to the original inference, would he not have identified them with metalinguistic statements such as 'Socrates is a singular of man' in which the terms of the original inference occur in simple rather than personal supposition?[120]

Second, it appears from the treatment of the first example

120. Bird acknowledges this difficulty, but does not seem to think it undermines the gist of his analysis, "The Tradition of the Logical Topics: Aristotle to Ockham," 320, and "Topic and Consequence in Ockham's Logic," 73.

that this interpretation would count as extrinsic means all of the general rules for non-syllogistic inferences mentioned in *Summa logicae* III–3, c.2–9. Every inference that holds good immediately by an intrinsic mean, holds good mediately by some general rule under which it falls. As general and metalinguistic, none could count as an intrinsic mean for Ockham. But this proposal divides his extrinsic means into two classes: those containing terms that signify the terms of the original inference—e.g., 'Negatively from a distributed superior to a distributed inferior there is a simple inference'—and those that fix on something else—e.g. 'The exclusive and universal from transposed terms signify the same and convert'. Hence, all of the traditional topical maxims—whether intrinsic, extrinsic, or intermediate—would be lumped by Ockham into the category of extrinsic means.

The trouble is that with one exception, Ockham never so labels the general rules taken from the traditional intrinsic topics, or even those taken from the traditional extrinsic topics of opposites. *Summa logicae* III–3, c.7 is the only chapter explicitly announced as having to do with extrinsic means.[121] Its list includes one rule from the traditional intermediate topics of Conjugates and Cases:

(R2) If the abstract is true of the abstract, the concrete is true of the concrete and the adverb of the adverb,

on which Ockham imposes numerous qualifications; one rule corresponding to Peter of Spain's intrinsic topic Whole in Mode:

(R3) If an inference is good, it will hold good when the same addition is made to the premiss and the conclusion,

so that since 'A man runs; therefore an animal runs' holds, 'A white man runs; therefore a white animal runs' holds, too;[122]

121. (OPh I, 610).
122. (OPh I, 613).

several rules not listed by Peter of Spain and William of Sherwood, which license a kind of analogical reasoning and would fit with their extrinsic topics of More, Less, and Proportion, although they do not hold good in general:

(R4) If the simple is predicated of the simple, then the comparative of the comparative, and the superlative of the superlative,

as in 'A sinner is evil; therefore a worse sinner is more evil',

(R5) If the singular is true of the singular, the plural is true of the plural,

and

(R6) If the plural is true of the plural, the singular is true of the singular;[123]

and finally the extrinsic topic of authority:

(R7) What a wise man says is true,

which Ockham says "is not a general rule unless the author is one who cannot err or one whose words are instructed by someone who cannot"—viz., God or those instructed by Him.[124]

The other principal class of rules explicitly identified as extrinsic means by Ockham fix on relations among the syncategorematic words in the premiss(es) and conclusion. His examples of rules governing one-premiss inferences are

(R8) The inference from the universal to the exclusive with the terms transposed holds good,[125]

and

123. (OPh I, 615–17).
124. (OPh I, 614).
125. *Ibid.*, c.1, (OPh I, 588); *Expos. Elench.* II, c.7, (OPh III, 204–205).

(R9) The inference from a singular to an indefinite with the negation afterwards holds good.[126]

Regarding two-premiss inferences, Ockham twice says that all syllogisms hold good through extrinsic means,[127] and gives the example of

(R10) From a *de necessario* major and an assertoric minor, a necessary conclusion follows[128]

And he remarks that (R9) and (R10) both have to do with the form of a proposition.[129] But no rules of this kind were ever included among the traditional lists of topical maxims—whether intrinsic, extrinsic, or intermediate—presumably because they were concerned with form directly and so not primarily part of the subject matter of dialectical reasoning. Hence, if Ockham's class of extrinsic means pirates, it does not do so in the way required by the above interpretation.

Focussing on one-premiss inferences, I am inclined to identify the intrinsic means with the rules of conversion. Ockham does not explicitly say that there will always be rules to inform us—usually by reference to the comparative extensions of the categorematic terms in the original inference—when an inference can be so reduced. Thus, Ockham tells us that, given appropriate quantities and qualities in the premiss and conclusion, an intrinsic mean will always (sometimes) be available when the categorematic terms are a) related as defined term to definition, described term to description, interpreted name to its interpretation and vice versa—i.e., where they are coextensive;[130] b) as inferior to superior[131] or su-

126. *Summa logicae* III–3, c.1, (OPh I, 589).
127. *Ibid.*, (OPh I, 588); *Expos. Elench.* II, c.7, (OPh III, 205).
128. *Summa logicae* III–3, c.1, (OPh I, 589).
129. *Ibid.*
130. *Ibid.*, c.2, (OPh I, 591–92, 595).
131. *Ibid.*, (OPh I, 591).

perior to inferior[132] or part to whole or whole to part[133] —i.e., where the extension of one includes the extension of the other; as contraries, as privations and havings, as infinite to finite[134] as co-generic species[135]—i.e., where the extension of one is excluded from the extension of the other; or as correlatives[136]—i.e., where one cannot have extension unless the other does. The fact that such a reduction is available is what stands behind an extrinsic mean such as (R8), and that is why Ockham says the inference 'Socrates does not run; therefore a man does not run' holds not only more immediately, but also more adequately by the intrinsic mean 'Socrates is a man'. Thus, on this reading of *Summa logicae* III–3, c.2–9, most of the rules offered there for non-syllogistic inferences fit into a program of assimilating as many good inferences as possible to paradigm syllogisms.[137]

Support for this contention is found in a parallel discussion in Ockham's *Expositio super libros Elenchorum*:

> ...it must be said that (i) just as some inferences are formal because of *complexes*, so (ii) some because of *noncomplexes*. That is, (ii) some hold by an *intrinsic mean* and (i) some by an *extrinsic mean*. For the inference 'Every man runs; therefore Socrates runs' does not hold by reason of complexes, since if it did whenever the antecedent was universal and the consequent singular, the inference would hold good. Thus, the infe ence 'Every animal is a substance; therefore whiteness is a substance' would hold good. Therefore, the inference does not hold good because of *complexes* or through an *extrinsic mean,* but because of *noncomplexes* and through an *intrinsic mean.* For since Socrates is a man, *the mean* 'Socrates is a man' is true. Therefore, the above mentioned inference is good. Moreover, it is called an intrinsic mean, when adding that mean to the antecedent makes a good syllogism. For example, when one argues

132. *Ibid.*, c.4, (OPh I, 598).
133. *Ibid.*, c.3, (OPh I, 596–97).
134. *Ibid.*, c.9, (OPh I, 632–35).
135. *Ibid.*, (OPh I, 628–630).
136. *Ibid.*, c.3, (OPh I, 596).
137. I took this line in "Did Ockham Know of Material and Strict Implication? A Reconsideration," 18–19. Calvin Normore also suggests this approach in *The Logic of Time and Modality in the Later Middle Ages: The Contribution of William Ockham*, chap.5.

'Every man runs; therefore Socrates runs', the addition of the premiss 'Socrates is a man' will make a good syllogism that argues thus: Every man runs, Socrates is a man; therefore Socrates runs.

But some inferences hold (i) because of *complexes* and by *an extrinsic* mean. For example, the inference 'Only Socrates is a man; therefore every man is Socrates' holds good, and does so *because of complexes*, since evidently the argument is from an exclusive to a universal with the terms transposed. And it holds by an *extrinsic mean*—viz., through 'From an exclusive to a universal with the terms transposed is a good inference'. Moreover, it is called an extrinsic mean because when this is added to the antecedent, it does not make a syllogism. For there is no syllogistic form in the following: Only Socrates is a man; from the exclusive to the universal with the terms transposed is a good inference; therefore every man is Socrates...[138]

A non-syllogistic inference holds by an intrinsic mean when the noncomplexes or categorematic terms in its premiss and conclusion are such that a proposition may be formed from them and added to the premisses to yield a syllogism. In the *Ordinatio*, he adds the further stipulation that the resultant proposition be true:

> when such a proposition through which the inference should be reduced to a syllogism is true, then it is a good inference. When it is not true, then the inference does not hold good.[139]

But surely Ockham does not think that any proposition formed from the terms of the premiss and conclusion that meets these additional conditions suffices as an intrinsic mean. If it did, then every inference that has either a false premiss or a true conclusion could be seen to hold good by intrinsic means. For any such inference ('$p$; therefore $q$') can be cast into a valid disjunctive syllogism by adding a disjunctive premiss formed from the consequent and the denial of the antecedent ('$\neg p$ v $q$'). In every case this additional premiss will have a true disjunct and will therefore be true. On the other hand, Ockham's inclusion of the traditional intrinsic topics of generation and corruption suggests he would not want to restrict the resultant syllogisms to

138. II, c.7, (OPh III, 204–205).
139. I, d.4, q.1, (OTh III, 15).

categorical syllogisms. And his further remark in the *Elenchi* —that a multi-premiss argument can be seen to hold "as it were" (in a broad sense) through an intrinsic mean when the addition of a true premiss formed from its terms yields a good argument—suggests that he does not want to restrict the resultant arguments to syllogisms either.[140] Unfortunately, Ockham does not bother to make his proposal precise in either work.

On the other hand, an argument is said to hold good by an extrinsic mean, when it holds by complexes—i.e., by a general rule having to do with the syncategorematics in its component propositions; and such a general rule having to do with syncategorematics cannot be added as a premiss to reduce the original argument to a syllogism. Here Ockham focuses exclusively on the second class of extrinsic means mentioned in the *Summa logicae*, and passes over the rules drawn from traditional topical maxims—such as (R1)—(R6)—entirely.

This text notwithstanding, my interpretation might be challenged. After all, if Ockham had intended the general rules for intrinsic means as reduction rules, would they not be of the form

(B) To reduce an inference whose terms are related as ____ to . . . to a syllogism, add a premiss in which ____ is predicated of . . . or vice versa,

where '____' and '. . .' take substitutions such as 'defined'/'definition'. Yet almost all of the rules Ockham states are variations on the following form

(C) There is a good inference from ____ to . . . and/or vice versa;

and none instantiates (B). Further, if Ockham had intended (C)-form rules to be applied in reductions, one might expect him to indicate this as he went along. After all, William of Sherwood, whose topical maxims often take the form

140. II, c.7, (OPh III, 205).

(D) Whatever is predicated of (removed from) ____ is predicated of (removed from) . . .

or

(E) ____ is predicated of whatever . . . is predicated of,

and not (B), regularly indicates in all cases except the intrinsic topics drawn from substance—viz., definition, description, and interpretation of a name—that and how such reductions can be made.[141] But Ockham lists his rules for inferences involving universal affirmatives and negatives[142] without once mentioning how they could supply the premiss for such reductions. Surely these considerations make it extremely doubtful that Ockham had a program of reducing enthymemes to syllogisms explicitly in mind when he catalogued these rules.

In spite of these objections, I think the balance of evidence suggests that the second interpretation is closer to Ockham's meaning. After all, in both of his explicit accounts of what it is for an argument to hold by an intrinsic mean, Ockham identifies the intrinsic mean with the premiss that could be used to reduce the original inference to a syllogism. Many of the rules in *Summa logicae* III–3, chapters 2 and 4 that are not explicitly so applied correspond to maxims from the intrinsic topic of substance for which Sherwood does not bother to spell out reductions either. Further, commenting on variations of the rule

(R11) There is a good inference from something taken with a determination to the same term without it,

Ockham remarks

> ...for all such enthymemes can be reduced to a syllogism by assuming the proposition that is the intrinsic mean of such an inference. Thus, just as the inference 'Every man runs; therefore Socrates runs' holds good, because it is reduced to a syllogism by assuming the mean

141. *Introduction to Logic*, chap.4, 72–104.
142. *Summa logicae* III–3, c.2–5.

> 'Socrates is a man'; and arguing 'Every man runs, Socrates is a man; therefore Socrates runs'; so the inference 'Socrates runs quickly; therefore Socrates runs' holds good because the syllogism 'Everyone who runs quickly is a runner; Socrates runs quickly; therefore Socrates runs' holds good. And so on for the others...[143]

This passage has the air of saying that such rules hold good because syllogistic reductions that stand behind the other inference rules already listed are available for (R1 1) as well. And elsewhere he further classifies the original enthymemes on the basis of whether the added premiss would be necessary or contingent.[144] Finally, this interpretation explains the imperialism of Ockham's division of formal inferences, to which we now turn.

(3.2) *Formal versus Material Inferences.* Behind the division between formal and material inferences, lies the distinction between the *form* of a proposition or argument—which is determined by the arrangement of its syncategorematic components—and its *matter* or categorematic terms. Thus, we might expect a formal inference to be one whose validity could be established solely from the arrangement of its syncategorematics, while that of a material inference could be determined only by recourse to the particular categorematic terms it contains. But Ockham widens the class of formal inferences to include enthymemes as well. Thus, in *Summa logicae* III–3, c.1, he writes,

> ...Formal inferences are of two sorts. For some hold by extrinsic means that have to do with the form of propositions. Examples are rules such as 'From the exclusive to the universal formed from transposed terms, is a good inference', 'From a *de necessario* major premiss and an assertoric minor premiss, a *de necessario* conclusion follows', etc. Some hold by intrinsic means immediately, and mediately by extrinsic means having to do with the general conditions of propositions, not truth or falsity, necessity or impossibility. The inference 'Socrates is not running; therefore a man is not running' is an inference of this sort.[145]

143. *Ibid.*, c.6, (OPh I, 605).
144. *Ibid.*, c.8, (OPh I, 618).
145. (OPh I, 589).

And he concludes the above quoted passage from the *Elenchi*-commentary by saying, "and so some inferences are formal because of complexes and through an extrinsic mean, some formal because of noncomplexes and through an intrinsic mean."[146] Some of the original intuition is preserved because—even on this broadened understanding—all formal inferences *ultimately* hold good by virtue of the arrangement of the syncategorematics in their premiss(es) and conclusion.

On the other hand, Ockham says,

> ...An inference is called 'material' when it holds precisely because of the terms and not because of some extrinsic mean having to do precisely with the general conditions of propositions. Inferences such as 'A man runs; therefore God exists' and 'A man is a donkey; therefore God does not exist' etc. are inferences of this sort.[147]

Ockham's sample material inferences do fall under the general rules 'The necessary follows from anything' and 'Anything follows from the impossible', respectively.[148] But the necessity of the conclusion and impossibility of the premiss in those inferences does not arise out of their logical form alone, but depends on the particular categorematic terms they contain. What Ockham explicitly rules out is that material inferences hold even mediately by extrinsic means having to do solely with the arrangements of syncategorematics in the premiss(es) and conclusion. Thus 'A man is a donkey; therefore a man is capable of braying' is not a material inference even though it can be seen to hold by means of the rule 'Anything follows from the impossible'. For it can also be seen to hold good immediately by the intrinsic mean 'Every donkey is capable of braying' and mediately by some extrinsic mean—e.g., that 'An *A* is *B* and every *B* is *C*; therefore an *A* is *C* ' is a good inference. Inferences that hold immediately by intrinsic means but mediately by extrinsic means are formal, not material inferences.[149] Likewise,

146. II, c.7, (OPh III, 205).

147. *Summa logicae* III-3, c.1, (OPh I, 589).

148. *Ibid.*, c.38, (OPh I, 730-31).

149. Given this characterization of material inferences, it follows that Ockham's favorite examples of material inferences would not be material in-

although Ockham does not explicitly consider examples with molecular premisses or conclusions, it seems that inferences of the form '*q*; therefore *p* or not-*p*' and '*p* & not-*p*; therefore *q*' would not count as material inferences for Ockham. The reason is that the necessity of the conclusion and impossibility of the premiss can be determined from their logical form alone apart from any consideration of their categorematic terms, and the inferences can thus be seen to hold by extrinsic means.

The examples Ockham gives are of an inference with a necessary conclusion and an inference with an impossible premiss, although as just noted not all such inferences are material. Presumably, the inferences 'Dodos are not extinct; therefore there are pink giraffes' and 'There are no pink giraffes; therefore dodos are extinct' would count as material inferences, too, because the falsity of the premiss and the truth of the conclusion, respectively, depends on their categorematic terms and is not determined solely by their logical form.

The author of the *Elementarium logicae* gives a different kind of example:

> A material inference is one which does not hold good by virtue of the mode of argument, but by virtue of the terms from which it is composed. For example, this follows—'An animal is disputing; therefore a man is disputing'—not because the inference from the superior to the inferior holds good, but because the predicate 'to dispute' cannot pertain to any animal other than man...[150]

Disputation is an activity in which only rational creatures can engage. Consequently, if it is true that an animal is disputing, it is true that a rational animal is disputing; and man is the only rational animal. This inference can thus be reduced to one that holds good by virtue of its logical form by the addition of two

ferences if Ockham allowed molecular propositions as intrinsic means. For as indicated in section (3.1) above, every inference with a false premiss and/or true conclusion could be seen to hold good immediately by intrinsic means, if a disjunction of the denial of the premiss and the conclusion were supplied as a premiss.

150. (Buytaert ed., 255).

premisses to the antecedent: viz., 'Every disputant is rational' and 'Every rational animal is a man'. It seems, therefore, that Ockham would class it among inferences that hold good by intrinsic means in the broad sense and hence as a formal inference of the second type. Perhaps the author of the *Elementarium* does not for two reasons: (i) that although the addition of these two true premisses does yield an argument that holds good by virtue of its logical form, it does not yield a valid *syllogism*; and (ii) the original inference is seen to hold good simply by considering the meaning of its categorematic terms, since 'Every disputant is rational' and 'Every rational animal is a man' are true by virtue of the definitions—nominal and real—of the categorematic terms.

(3.3) *Simple versus "As of Now" Inferences.* The last distinction we will discuss but the first explained by Ockham is that between simple inferences and inferences which hold good "as-of-now." He writes,

> ...There is an inference as-of-now when at some time the antecedent can be true without the consequent, but not at this time. For example, the inference 'Every animal runs; therefore Socrates runs' is good as of now, since at the time at which Socrates is an animal, the antecedent cannot be true without the consequent. Nevertheless, at some time it will be possible for the antecedent to be true without the consequent, because when Socrates will be dead, it will be possible for the antecedent to be true and the consequent false. There is a simple inference when at no time will it be possible for the antecedent to be true without the consequent. For example, the inference 'No animal runs; therefore no man runs' is simple, because it never will be possible for the proposition 'No animal runs' to be true without the proposition 'No man runs' being true, if it were formed.[151]

Put schematically,

(F) An inference holds good as-of-now if and only if (i) it is not possible now for its antecedent to be true and its consequent false and (ii) at some time it will be possible for

151. *Summa logicae* III–3, c. 1, (OPh I, 587–88).

the antecedent to be true and the consequent false,

whereas

(G) An inference is a simple inference if and only if (i) it is not possible now for its antecedent to be true and its consequent false, and (iii) at no time will it be possible for the antecedent to be true and the consequent false.

(F) and (G) add to condition

(A) It is not the case that the antecedent is true and the consequent false

further determinations of time and modality, and the division is between inferences that can fail to hold good at some future time and those which cannot.

Ockham brings in the notion of time because in his logic all propositions are tensed and thereby contain indexical temporal indicators (see chapters 10–11 above). As the times to which they refer change, so their truth-values may change. Thus, he has already contrasted as-of-now and simply assertoric (*de inesse ut nunc* and *de inesse simpliciter*) propositions as follows:

(H) A proposition is an as-of-now assertoric proposition if and only if the predicate can be truly affirmed of the subject at one time and not at another,

for example, 'Socrates is white', while

(J) A proposition is a simply assertoric proposition if and only if the predicate cannot pertain to the subject at one time and not at another but is always related to it the same way—either always truly predicated of it or never.[152]

152. *Ibid.* III–1, c.31, (OPh I, 441).

Ockham reads condition (A) as equivalent to

(A′) It is (present tense) not the case that the antecedent is (present tense) true and the consequent false,

and not as

(A″) It is (tenselessly) not the case that the antecedent is (tenselessly) true and the consequent false.

Since whether or not an inference holds good thus depends on the relative truth-values of its antecedent and consequent, the possiblity is opened that some inferences may hold good at one time and not at another.

Nevertheless, not even this possibility would arise in Ockham's logic, if he had restricted good inferences to those that are formally valid the first way. For they hold—i.e., satisfy condition (A)—by virtue of the arrangement of their syncategorematics alone; the relative truth-values of premiss and conclusion is constant regardless of the categorematic terms and of changes in their extensions. But Ockham has insisted on including others whose premiss(es) and conclusion have the relevant truth-values—and hence satisfy (A)—only by virtue of having certain categorematics rather than others and/or by virtue of those terms having certain extensions and not others—viz., material inferences and those that hold good immediately by intrinsic means. And in the above quoted passage, he notes that the enthymeme 'Every animal runs; therefore Socrates runs' holds good as of now, because the truth-value of the intrinsic mean 'Socrates is an animal' can and will change while the inference 'No animal runs; therefore no man runs' depends on a necessary premiss 'If something is a man, it is an animal' to be reduced to an argument formally valid the first way. Similarly, presumably the material inference 'Dodos are not extinct; therefore pink giraffes exist' holds good as of now, when dodos are extinct, but did not hold good in the past when there were dodos but no pink giraffes. It is in connection with such inferences that the distinction between simple and as-of-now in-

ferences comes prominently into play.

What does Ockham mean when he says that "at some time the antecedent" of an as-of-now inference such as 'Every animal runs; therefore Socrates runs' "can be true without the consequent, but not at this time"? The answer is far from clear. (a) Surely not that it would be *contradictory* to suppose that the antecedent of such an inference is true now, while its consequent is false now. For there is no contradiction involved in supposing that 'Every animal is running' is true now, while 'Socrates is running' is false now. Indeed, this may happen now (1980) when Socrates is dead. And Ockham is too good a logician to have thought otherwise.[153]

(b) Medieval logicians including Ockham often contrasted absolute necessity (*necessitas absoluta*) or being absolutely necessary (*simpliciter necessarium*) "in such a way that it is contradictory for its opposite to be true"[154] and hence "in such a way that it neither can nor will be able to be false,"[155] with necessity *per accidens* which pertained to all true propositions about the past (see Part Five, chapters 27 and 28 below). Beginning with the assumption that not even God can alter the past, they reasoned that there are propositions such as 'Judas betrayed Christ', whose denials are not contradictory, but which are nevertheless such that nothing could happen now or

153. Stump does not think so. She maintains that "the denial of the consequence 'Every animal is running; therefore Socrates is running'" "is contradictory when Socrates is alive" but "is not contradictory when he is dead" (Lectures to the Council for Philosophical Studies Seminar on Medieval Logic (1980), 22). I do not see how this can be right unless it means merely that 'Every animal is running and Socrates is an animal and Socrates is not running' is contradictory, while 'Every animal is running and Socrates is not an animal and Socrates is not running' is not—in which case her comment is not relevant. For the issue is what Ockham means by saying that it is not possible that the antecedent 'Every animal is running' be true and the consequent 'Socrates is running' false, but this will be possible at some time; and whether he means that it is now contradictory that 'Every animal is running' be true and 'Socrates is running' false, although this will not be contradictory at another time.

154. *Quodl.* VI, q.2, (OTh IX, 590).

155. *Summa logicae* III–2, c.7, (OPh I, 526).

in the future that would make them false. They are necessary *per accidens*, since it is only because the facts were as they were (and in many cases there was a time at which something could have made them otherwise) that such propositions cannot now be false. Their corresponding denials are impossible *per accidens.*

(c) Some have suggested that Ockham understood the modalities in (F) and (G) in terms of time, equating 'possible' with 'true at some time', 'impossible' with 'true at no time', and 'necessary' with 'true at all times'.[156] On this reading, Ockham is seen as falling in with Aristotle's putative conflation of natural necessity and omnitemporality[157] and the temporal interpretation of modalities by the Stoics.[158] True, Ockham seems to say the opposite in *Summa logicae* II, c.9, where he remarks that

> ...this mental proposition 'God exists' is necessary—not because it is always true—because if it does not exist it is not true. But if it exists, it is true and cannot be false...[159]

But his concern here is with the fact that necessary propositions are not thereby necessary or perpetual beings and hence are not always true merely because they do not always exist (see Part Five, chapter 25 below). This focus is explicit in his remark that the necessary, perpetual, and incorruptible propositions required for demonstration are not necessary beings but "cannot be false" and are true in such a way that if formed they would not be false but only true and hence "cannot be false but only true."[160] But the last remark can be rendered temporally as the

156. Moody wanted to read Ockham this way; see *Truth and Consequence in Medieval Logic*, (Amsterdam, 1953), sec.IV.14, 74, and "Medieval Logic," in "History of Logic," *The Encylopedia of Philosophy*, vol.4, (New York, 1967), 528–534, at 532.

157. See Jaakko Hintikka, "Aristotle and the 'Master Argument' of Diodorus," *American Philosophical Quarterly* I (1964): 101–114.

158. This comparison is made by Moody, *Truth and Consequence in Medieval Logic*, sec.IV.14, 74–75.

159. (OPh I, 275).

160. *Ibid.* III–2, c.5, (OPh I, 512).

assertion that it is never the case that a necessary proposition exists and is false. Likewise, a temporal interpretation of the modalities appears to explain Ockham's remark that "if a proposition is simply assertoric and true, it is necessary;"[161] since it does follow from the claim that the predicate cannot be first true and then false about its subject but is always true about its subject, that it is always true about its subject and hence necessarily true (in the sense of always true) about its subject.

Nevertheless, the results of substituting this temporal understanding of modalities in (F)–(J) are not easy to interpret. For (F) becomes equivalent to

(F′) '*p*; therefore *q*' is an as-of-now inference, if and only if (i) now there is no time at which the conjunction '*p* & not-*q*' is true, although (ii) there will be some time at which there is some time at which '*p* & not-*q*' is true.

If 'now there is no time at which' means 'neither the present time nor any time future relative to it is one at which', then Ockham clearly does not accept (F′). For he does not think that if 'Every animal runs; therefore Socrates runs' is an as-of-now inference, then it is true now that there is no time at which 'Every animal runs and it is not the case that Socrates runs' is true. Instead he thinks that there is a time future relative to now at which the conjunction is true—viz., when Socrates dies. Alternatively, we could take the present tense of 'now there is no time' at face value. Since there is only one time at a time, so to speak, that expression becomes equivalent to 'now is not a time' and condition (ii′) is equivalent to (A′). Likewise, 'there will be some time at which there is a time' will be equivalent to 'there will be a time'. This construal fits Ockham's example. For where Socrates is now an animal, now is not a time at which 'Every animal runs' is true and 'Socrates runs' is false. But there will be such a time when Socrates dies. Likewise, substituting in (G), (iii) becomes

161. *Ibid.* III–1, c.31, (OPh I, 444).

(iii′) at no time will there be a time at which the antecedent is true and the consequent false,

which reduces to 'there will not be a time at which the antecedent is true and the consequent false'.

Does Ockham also think that there never was a time at which the antecedent of a simple inference was true and its consequent false? If he did, then the resultant contrast would be between inferences which always hold and those which hold now but now always. And this is similar to that found in the *Tractatus logicae minor*, formerly but mistakenly attributed to Ockham, between "an as-of-now inference" "which does not hold at every but only at determinate time"—the present time not explicitly specified—and a simple inference "which holds at every time..."[162] Ockham's example here—'No animal runs; therefore no man runs'—whose antecedent contradicts the denial of its consequent, suggests an affirmative answer. But elsewhere he admits as simple inferences those whose antecedents and consequents are merely necessary *per accidens*.[163] Thus, 'The Word of God existed from eternity; therefore an incarnate existed from eternity', where 'incarnate' supposits for that which was, is a simple inference guaranteed by the proposition 'The Word of God was incarnate', which is now and always will be necessary *per accidens*, but was always false if formed prior to the incarnation. Thus, even if a temporal interpretation of modalities were attributed to Ockham, he could not be read as supposing that good simple inferences hold good at all times, past, present, and future.[164]

On this interpretation, conditions (ii′) and (iii′) are contradictories. Hence, every inference must satisfy either one or the other and none can meet both. Since on this reading (i′) is

162. Eligius Buytaert, "The *Tractatus logicae minor* of Ockham," *Franciscan Studies* N.S. XXIV (1964): 34–100; cf. 77. For a discussion of its authorship, see *Summa logicae*, Intro., c.6, (OPh I, 62*–66*).

163. *Summa logicae* III–3, c.6, (OPh I, 608).

164. The importance of Ockham's notion of necessity *per accidens* in his modal logic is emphasized by Calvin Normore in *op. cit.*, chap.7–8.

equivalent to (A′), which characterizes every good inference, it follows that the resultant division between simple and as-of-now inferences would be both exclusive and exhaustive of good inferences. A further consequence would be that (A′) is not only necessary but also sufficient for an inference to count as a good inference. For if it is a necessary truth that every inference satisfies (ii′) or (iii′), all one needs to determine in order to establish which inferences hold good is whether (A′) is satisfied.

Yet, the temporal interpretations do not fit so easily with (H) and (J). For there is no single time at which there is (present tense) one time at which the predication holds and is (present tense) a time at which it first holds and then does not. To get the distinction between as-of-now and simply assertoric true statements to be one between those that are sometimes true and sometimes false and those that are always true, one will have to regard the 'can' and 'cannot' as redundant and replaceable by 'is' and 'is not', respectively. Further, while Ockham does make regular use of the first two interpretations of necessity elsewhere in his philosophy, the temporal interpretation does not recur. In theology and natural philosophy, as well as in metaphysics and epistemology, Ockham often supposes that it is possible for God to do things that He never does or will do.

(d) Medieval theologians also followed Aristotle in contrasting absolute with hypothetical necessity. As before, a proposition is absolutely necessary if its opposite involves a contradiction. But a contingent proposition $p$ can be hypothetically necessary if and only if there is a true proposition $q$ such that 'if $q$ then $p$' is necessary.[165] On this way of drawing the distinction, only contingent propositions can be hypothetically necessary. Originally, the contrast was supposed to be between propositions or states of affairs the source of whose necessity was somehow intrinsic to them, and those that derive their necessity from another already given. Nevertheless, the requirement of contingency can be abstracted from the conditions of hypothetical necessity to yield

165. *Quodl.* VI, q.2, (OTh IX, 590).

(K) A proposition $p$ is hypothetically necessary, if and only if there is a true proposition $q$ such that 'if $q$ then $p$' is necessary.

Now suppose that $p$ is itself a conditional proposition. By (F) the corresponding inference would be an as-of-now inference if and only if (i″) $p$ is hypothetically necessary now but (ii″) at some other time $p$ will not be hypothetically necessary, because there is now a true proposition $q$ such that 'if $q$ then $p$' is necessary, but at some time there will be no such true proposition. On the other hand, by (G), the corresponding inference would be simple if and only if (i″) there is and (iii″) always will be a true proposition $q$ such that 'if $q$ then $p$' is a necessary statement. Likewise, according to (H) and (J), a true as-of-now assertoric statement is one that is hypothetically necessary at one time and not at another, whereas a true simple assertoric statement is one that is always hypothetically necessary.

This interpretation fits well with Ockham's example of an as-of-now inference: 'If every animal runs, Socrates runs' is not hypothetically necessary—because 'Socrates is an animal' is true now and 'If Socrates is an animal, then if every animal runs, Socrates runs' is absolutely necessary; but it will not be hypothetically necessary later—when Socrates dies and 'Socrates is an animal' becomes false. And without employing the label 'hypothetically necessary', the author of the *Elementarium logicae*, also formerly but mistakenly attributed to Ockham, gives substantially the same account of as-of-now inference:

> ...For those who say that an inference is good as-of-now intend to say only that the antecedent cannot be true without the consequent while something is or is situated in some determinate way. For example, when they say that the inference 'Every man is running; therefore Socrates is running' is good as-of-now, they intend to say only that while Socrates exists, as he does now, it is impossible that 'Every man is running' should be true unless the proposition 'Socrates is running' is true...[166]

166. Eligius Buytaert, "The *Elementarium logicae* of Ockham," *Fran-*

Likewise, Albert Saxony explains that

> these inferences are called as-of-now inferences that are not good absolutely speaking, because it is impossible for things to be as their antecedent signifies without being as their consequent signifies, but are good as-of-now because it is impossible that things be altogether the way they are as-of-now and be the way the antecedent signifies without being the way the consequent signifies...[167]

And John Buridan follows suit.[168]

Even so, it may be doubted whether the present interpretation really captures Ockham's understanding of simple inference. After all, 'If no animal runs, then no man runs' is not merely always true and hence hypothetically necessary at all times; it is absolutely necessary. And 'If each divine person existed from eternity, a creator existed from eternity', where 'creator' supposits for those that were, is not only true and hypothetically necessary now and forever afterwards; it is necessary *per accidens*. Would we not come closer to Ockham's genuine opinion, if we assigned him

(A‴) An inference '$p$; therefore $q$' is a simple inference if and only 'if $p$ then $q$' is absolutely necessary or necessary *per accidens*,

which accords more closely with the streamlined formulations of Albert of Saxony[169] and John Buridan?[170]

(3.4) *Comparison of Ockham's Divisions with Material and Strict Implication*. Assuming that (A) defined the modern notion of material implication, I once argued that satisfying (A) is also necessary and sufficient in Ockham's logic for an inference to count as a good inference. My reason was that for Ockham the division between simple and as-of-now inferences is both an

*ciscan Studies* N.S. XXV (1965): 151–276; cf. 254. On the authorship of the *Elementarium*, see *Summa logicae*, Intro., c.6, (OPh I, 62*–66*).

167. *Op. cit.*, Tractatus quartus, c.1, fol.24rb.

168. *Tractatus de consequentiis* I, c.4, (Hubien ed., 23–24).

169. *Op. cit.*, fol.24rb.

170. *Tractatus de consequentiis* I, c.4, 23.

exclusive and an exhaustive division among good inferences, while satisfying (A) is necessary for satisfying each and sufficient for satisfying one or the other. My conclusion was, in effect, that for Ockham material implication is the "genus" of good inference under which formal and material, simple and as-of-now divide as species.[171]

The soundness of this argument depends on Ockham's definitions of simple and as-of-now inference. If we accept

(F″) The inference '*p*; therefore *q*' is an as-of-now inference, if and only if (i″) 'if *p* then *q*' is hypothetically necessary now, but (ii″) at some other time 'if *p* then *q*' will not be hypothetically necessary,

and

(G″) The inference '*p*; therefore *q*' is a simple inference if and only if (i″) 'if *p* then *q*' is hypothetically necessary now, and (iii″) 'if *p* then *q*' always will be hypothetically necessary,

then the first part of the argument holds. For given the above understanding of hypothetical necessity, a proposition satisfies (i″) if and only if it satisfies (A′); no inference can satisfy both (ii″) and (iii″) because they are contradictory; and every good inference must satisfy one or the other of (ii″) and (iii″). So the division will be exclusive and exhaustive of good inferences; and satisfying (A′) will be necessary and sufficient for being one or the other kinds of good inference. It will not follow further that Ockham's "genus" of good inference is material implication, however, since the modern notion of material implication is identified with

(A″) It is (tenselessly) not the case that the antecedent is (tenselessly) true and the consequent false

171. "Did Ockham Know of Material and Strict Implication? A Reconsideration," 35–37.

and not with

(A′) it is (present tense) not the case that the antecedent is (present tense) true and the consequent false.

The most that could be concluded is that since (A′) is the analogue of (A″) for a logic whose propositions are tensed and able to change truth-value, all of Ockham's good inferences fall under an analogue of the modern division of material implication.[172]

What if we replace (G″) with

(G‴) An inference '*p*; therefore *q*' is a simple inference if and only if 'if *p* then *q*' is absolutely necessary or necessary *per accidens*?

The division will still be exclusive. For where a condition is absolutely necessary or necessary *per accidens*, it is and always will be hypothetically necessary. Hence, any inference that satisfies (G‴) does and always will satisfy (G″). But the division fixed by (F″) and (G‴) will not be exhaustive. For if there always will be men in the future, the conditional 'if an animal exists, a man exists' is and always will be trivially true and hypothetically necessary—and so will fail to satisfy (F″). Yet it is neither absolutely necessary nor necessary *per accidens*—and so will fail to satisfy (G‴) as well.

Even passing over the differences between (A′) and (A″), it would be wrong to equate Ockham's division of material inference with modern material implication, since the latter includes and the former excludes all of Ockham's formal inferences. If Ockham had restricted simple inferences to those whose corresponding conditional proposition is absolutely necessary, his division would be equivalent to modern strict im-

172. That material implication is equivalent to (A″) and not (A′) is urged by Eleonore Stump in her criticism of my article in her lectures at the summer institute, Council for Philosophical Studies, 1980.

plication.[173] But this identification collapses as well when a disjunctive interpretation of the modalities is introduced into (G″).

In view of our examination of Ockham's motivations, however, this result of general non-coincidence should no longer seem surprising.

(3.5) *Formal Logic and the Doctrine of the Trinity.* Aristotle's project in the *Analytics* was seen as that of identifying argument forms that hold good regardless of the matter. Thus, Barbara ('Every *B* is *C*; every *A* is *B*; therefore every *A* is *C* ') is supposed to hold good regardless of which categorematic terms are substituted for '*A*', '*B* ' and '*C* ', provided that the substitution is univocal and uniform throughout. Similarly for inferences governed immediately by extrinsic means (e.g., those of the form 'Every *A* is *B*; therefore only *B* is *A*'). By the early fourteenth century, however, theologians had begun to question whether Aristotle's logic could accomodate the truths of faith.[174]

Suppose that '$N_1$' and '$N_2$' are proper names and that '$N_1$' stands for a distinct thing from '$N_2$'. It follows from the truth conditions laid down by Ockham that 'This *A* is $N_1$' (where 'this *A*' indicates *x*) is true if and only if 'This *A* is $N_2$' (where 'this *A*' indicates x) is false. Likewise, 'Every *A* is $N_1$' is true if and only if 'Only $N_1$ is *A*' is true, and if and only if 'Every *A* is $N_2$' and '$N_2$ is *A*' are false. Conversely, if each of 'This *A* is $N_1$' and 'This *A* is $N_3$', 'Every *A* is $N_1$' and '$N_3$ is *A*' is true, it follows that '$N_1$' and '$N_3$' name the same thing. Thus, arguments of the form 'This *A* is $N_1$, this *A* is $N_3$; therefore $N_1$ is $N_3$'—so-called "expository syllogisms"—hold good. So do arguments of the form 'Every *A* is $N_1$, $N_3$ is *A*; therefore $N_3$ is $N_1$' and 'No $N_1$ is $N_2$, this *A* is $N_1$; therefore this *A* is not $N_2$', regulated as they are by *dici de omni* and *dici de nullo*.

173. As Ernest Moody (*Truth and Consequence in Medieval Logic*, sec.IV.14, 78) and I (*op. cit.*, 27) have noted.

174. For a thorough examination of late thirteenth and early fourteenth century attempts to deal with this problem, see Hester Goodenough Gelber, *Logic and the Trinity: A Clash of Values in Scholastic Thought, 1300–1335*, an unpublished Ph.D. dissertation.

Such truth conditions and argument-forms would fail, however, if it were possible for one thing (*res*) to be really identical with many distinct things (*res*). Ockham labels this relation 'formal distinction' and finds it to be instanced by the relation between the divine essence and the divine persons or their personal properties. Thus, for Ockham, a formal distinction, by its very definition, involves the violation of some self-evident logical principles—viz., the Transitivity and Symmetry of Identity and the Principle of Contradiction. And such formal distinctions and resultant logically anomalous signification patterns make it impossible to substitute the names of persons of the Trinity or their personal properties or 'divine essence' or 'God' in some Aristotelian argument-schemata, while preserving validity. Thus, the arguments 'This essence is the Father; this essence is the Son; therefore the Son is the Father',[175] 'This Spiration is Paternity; this Spiration is Filiation; therefore Filiation is Paternity',[176] 'Every divine essence is the Father; the Son is the divine essence; therefore the Son is the Father',[177] and 'No Father is the Son; the divine essence is the Father; therefore the divine essence is not the Son',[178] fail. Ockham adds a new category of fallacy of accident to classify them.[179] It follows that the argument schema 'This $A$ is $N_1$, this $A$ is $N_2$; therefore $N_2$ is $N_1$', 'Every $A$ is $N_1$, $N_2$ is $A$; therefore $N_2$ is $N_1$', and 'No $N_1$ is $N_2$, this $A$ is $N_1$; therefore this $A$ is not $N_2$' do not hold good regardless of what categorematic terms are substituted for '$A$', '$N_1$', and '$N_2$', but only where the categorematic term '$A$' does not signify one thing that is really the same as distinct things signified by '$N_1$' and '$N_2$'.

Some theologians concluded that the expository syllogism was not a formally valid argument, and that the *dici de omni*

175. *Summa logicae* III–4, c.11, (OPh I, 820–22); II, c.27, (OPh I, 336–38).

176. *Ibid.* III–4, c.11, (OPh I, 821–22).

177. *Ibid.*

178. *Ibid.* III–1, c.4, (OPh I, 370).

179. *Ibid.* III–4, c.11, (OPh I, 820–21).

and *dici de nullo* were not formally valid rules.[180] By contrast, Ockham insists that the expository syllogism holds good for any matter, but stipulates that arguments of the form 'This $A$ is $N_1$, this $A$ is $N_2$; therefore $N_2$ is $N_1$' will not count as an expository syllogism, if the term substituted for '$A$' signifies one thing that is really the same as the really distinct things signified by the terms substituted for '$N_1$' and '$N_2$'.[181] Again, he insists that every argument regulated by *dici de omni* or *dici de nullo* holds good, but an argument of the form 'Every $A$ is $N_1$; $N_2$ is $A$; therefore $N_2$ is $N_1$' or 'No $N_1$ is $N_2$; this $A$ is $N_1$; therefore this $A$ is not $N_2$' is so regulated only if its categorematic terms are not related that way.[182]

Once restrictions are admitted on the categorematic terms for which such argument schema hold good, the project of identifying valid arguments by attention to form alone has been compromised.[183] That Ockham did not simply abandon it, or start over to develop a comprehensive logical system that would accomodate the doctrine of the Trinity as well, is a reflection of his theological method, which will be the topic of Part Five, chapter 22 below.

180. E.g., the author of the *Centiloquium*; Philotheus Boehner, "The Medieval Crisis of Logic and the Author of the *Centiloquium*," *Franciscan Studies* IV (1944): 151–170, repr. in *Collected Articles on Ockham*, #20, 351–372.

181. *Summa logicae* II, c.27, (OPh I, 336–38); III–1, c.16, (OPh I, 403).

182. *Summa logicae* III–1, c.4–5, (OPh I, 370, 379–380).

183. Boehner seems to think, mistakenly in my judgment, that Ockham escapes this difficulty by building the material restrictions into the criteria for what counts as an expository syllogism ("The Medieval Crisis of Logic and the Author of the *Centiloquium*," 359–363).

# Part Three

## Theory of Knowledge

# 13

# Conceptual Empiricism and Direct Realism

The questions—where do our concepts come from? what are the immediate objects of our thought? and what, if anything, can we know with certainty and how can we know it?—lie at the heart of theories of knowledge, both ancient and modern. Hence, it is not surprising that they puzzled medievals as well. The first divides philosophers into conceptual empiricists and those who believe that some of our concepts are *a priori*; the second, into representationalists and direct realists; and the third, into sceptics and those who insist that certain knowledge is possible.

In accounting for the origin of our concepts, Ockham agrees with Aquinas,[1] Henry of Ghent,[2] and Duns Scotus[3] in the Aristotelian thesis that the human mind begins its existence as a *tabula rasa*:[4] in order for it to engage in any activity at all (and, in particular, in order for it to know anything), it must first be furnished with concepts all of which have to be acquired after birth. Aquinas begins his theory of knowledge with the axiom that a thing is knowable only insofar as it is actual.[5] Accepting Aristotle's arguments against Plato, Aquinas believed that forms that are the genera and species of physical objects do not exist separated from particular physical objects;[6] it follows that such

1. *Summa theologiae* I, q.75, a.2.
2. *Quodlibeta* IV, q.8, (Venice, 1613, T.I, fol.151va–b).
3. *Quaest. subtil. Metaphysicorum* II, q.1, n.2, (Wadding IV, 3).
4. *De anima* III, 9, 432b5.
5. *De ente et essentia*, c.2, (Roland-Gosselin ed., 7).
6. *Ibid.*, c.3, (Roland-Gosselin ed., 23); *Summa theologiae* I, q.75, a.4 and 7.

forms never really exist in separation from matter. Influenced by Arab interpretations of Aristotle, however, Aquinas affirmed that a thing is actual only insofar as it is formal, and that matter in itself is not actual at all, but merely potential.[7] Concluding that

> forms are not actually intelligible unless they are separated from matter and material conditions; nor are they rendered actually intelligible except through the power of intelligent substance which receives them within itself and produces them...,[8]

Aquinas devotes his attention to explaining the mechanism by which the intellect extracts the intelligible form from the unintelligible matter with which it is mixed.[9] But the processes which he postulates turn out to be almost impossible to identify in experience. And he has considerable difficulty explaining how on this scheme the intellect ever thinks of particulars.[10]

Given that what principally motivates Aquinas's psychological analysis is his metaphysical conviction that matter is unintelligible in itself, it is easy to see how philosophers would lose interest in his analysis as soon as they came to doubt its metaphysical underpinnings. Convinced that matter was not, as Aquinas had maintained, pure potentiality (see Part Four, chapter 15 below), Ockham looked for a fresh analysis of the psychological processes involved in our coming to know the world. Alternative psychologies combined with different metaphysical assumptions to yield varying answers to the second question—what are the immediate objects of our thought?—as well.

In this chapter, I shall concentrate on Ockham's answers to the first two questions: on his analysis of the mental acts involved in our coming to know true propositions, and his account of the relations among such acts and between them and extramental things. Then, in the following chapter, I shall ex-

7. *De ente et essentia*, c.2, (Roland-Gosselin ed., 7).
8. *Ibid.*, c.4, (Roland-Gosselin ed., 31).
9. *Summa theologiae* I, q.79, 84, and 85.
10. *Ibid.*, q.86, a.1.

amine his answer to the third question—what, if anything, can we know with certainty and how can we know it?—together with the charge that Ockham's theory of knowledge leads to scepticism.

## 1. THE DISTINCTION BETWEEN ACTS OF APPREHENSION AND ACTS OF JUDGMENT

Ockham begins his psychological account by distinguishing acts of apprehension from acts of judgment.[11] There are numerous parallels between Ockham's acts of apprehension and Lockean ideas, which might mislead the modern reader into assimilating the former to the latter: (a) Locke says that our mental activity begins when particular mind-independent physical objects cause us to have simple ideas of sensation.[12] Ockham says that it begins when such physical objects cause us to apprehend themselves by our senses. (b) Locke thinks that we have ideas of reflection[13] as well as ideas of sensation, but that the latter are temporally prior to and presupposed by the former.[14] Ockham allows that we do apprehend our own mental acts, but insists that this would be causally impossible if we did not first apprehend physical objects. (c) Locke thinks that from ideas of particulars, we can form abstract general ideas.[15] Ockham supposes that given acts of apprehending particulars, we can form abstract general concepts.

Despite such comparisons, it is clear that Ockham does not conceive of acts of apprehension the way Locke conceives of ideas. Locke explicitly states that ideas are objects, indeed the immediate objects, of thought.[16] By contrast, according to Ockham, acts of apprehension are not primarily or merely ob-

11. *Ord.* I, Prologue, q. 1, a. 1, (OTh I, 17–18).

12. *An Essay Concerning Human Understanding* II.1.20, 23; cf. II.1.2, 4–5.

13. *Ibid.*, II.1.2, 4–5.

14. *Ibid.*, II.1.23.

15. *Ibid.*, III.3.6–9, 13; II.11–12.

16. *Ibid.*, Intro., sec.8; II.8.8.

jects of thought, but rather mental acts of awareness in which the mind apprehends such objects. As already indicated, Ockham does allow that some acts of apprehension have mental acts for their objects. But, unlike Lockean ideas, acts of apprehension are not that by being aware of which the mind can be aware of physical objects and other mental acts.[17] They are the acts in which the mind is aware of such objects immediately or directly.

Among acts of apprehension, Ockham distinguishes noncomplex from complex cognitions. This distinction must not be conflated with Locke's distinction between simple and complex ideas, however. Locke says that a simple idea is one which "contains in it nothing but one simple uniform appearance."[18] It is one within whose content no distinctions are possible. But Ockham allows that a single noncomplex cognition can have two, really distinct things—viz., Socrates and his whiteness—as an object.[19] By 'complex' Ockham means a complex of terms.[20] Not just any plurality of terms is a complex, however, but only those that form a proposition which is either true or false. Thus 'A white man is running' is a complex of terms; 'white man' and 'man' are noncomplexes. A noncomplex cognition is, then, an act of apprehending one or more terms that do not form a proposition, whereas a complex cognition is an act of apprehending a proposition.[21]

Ockham seems to regard this distinction as exhaustive. For he says that there are acts of apprehension "of *anything* that can be an object of the intellectual power, *whether it is complex or noncomplex*..."[22] This remark is surprising at first, since we seem to be aware of something other than propositions and their terms. Nevertheless, Ockham's claim is easily explained in

17. *Rep.* II, d.12–13, (OTh V, 273–75).
18. *Op. cit.*, II.2.1.
19. *Rep.* II, q.12–13, (OTh V, 279–281).
20. See, e.g., *Ord.* I, Prologue, q.1, a.1, (OTh I, 21, lines 8–10).
21. Cf. *Expos. Periherm.* I, Prooemium, sec.12, (OPh II, 372–73); *Expos. Praedicam.*, c.4, (OPh II, 148).
22. *Ord.* I, Prologue, q.1, a.1, (OTh I, 16, lines 8–9).

terms of his objective-existence theory, according to which concepts are identified, not with acts of apprehension, but with their objectively existent objects. On the objective-existence theory, any object of a noncomplex act of apprehension is a conceived object (*conceptum*) and thus can be a term in a mental proposition. Ockham apparently wrote the above quoted sentence when he still subscribed to his early view and neglected to change it later to allow for the mental-act theory. In numerous places, Ockham has altered the text to make room for his later contention that concepts (and hence the terms of mental propositions) are to be identified with acts of apprehension. For example, he speaks of cognizing "the extremes [of a proposition] or the things signified by the extremes."[23] Thus, Ockham's final view is that an act of apprehension is a complex cognition when its object is a proposition, and that all other acts of apprehension—whether they are of the terms of a proposition or of the things signified by such terms—are noncomplex cognitions.

Closer to Locke's division between simple and complex ideas is Ockham's distinction between simple concepts "which do not include many concepts" and composite concepts "which are not simple and which include many concepts in their own way."[24] On the objective-existence theory, which identifies concepts with the objects and not with the acts of thought, this would amount to a distinction among the contents of acts of thought. Even after he has clearly abandoned the objective-existence theory and come to identify concepts with acts of thought, he continues to employ the distinction as a content distinction.[25] Thus, both an intuitive cognition of whiteness alone and an intuitive cognition of both Socrates and his whiteness would be noncomplex cognitions, but the former would be a simple and the latter a composite cognition.

When Ockham speaks of *acts* of apprehension, he does not mean to signify that they are voluntary or that the mind is not

23. *Ibid.*, (OTh I, 24, lines 13–14, 18–19).
24. *Ibid.*, d.3, q.5, (OTh II, 472–73).
25. *Quodl.* I, q.13, (OTh IX, 73).

caused to have them by something other than itself. Acts of apprehension are acts of the senses or intellect, not acts of will. Ockham confesses that if it were not for the authority of the saints and philosophers, he would say that the intellect is purely passive.[26] And, although the knower's volition is sometimes the partial cause of an act of apprehension, Ockham thinks that in many cases such acts have a total efficient cause other than the mind. He speaks of *acts* of apprehension to indicate a condition in which the mind is *actually*, as opposed to merely *potentially*, aware of something.

Acts of judgment are those by which one assents to or dissents from a proposition.[27] On Ockham's view, such acts are neither acts of the senses[28] nor acts of will, but acts of the intellect. Some acts of judgment, like some acts of apprehension, have volitions as partial efficient causes, while some do not.[29]

Ockham thinks that both kinds of mental acts are involved in knowing a proposition.[30] It is not logically possible that anyone should know a proposition that he never formulates or thinks of.[31] Further, it is impossible that anyone should formulate a proposition whose terms he never thinks of.[32] Yet, it is possible that one should entertain a proposition without knowing it or believing it. For there to be knowledge, there must not only be an act of apprehending the terms of the proposition and the proposition itself, but also an act of judgment by which one assents to the proposition. Ockham admits the possibility that in some cases there might be a single complex cognition which was an act of apprehending the proposition and at the same time an act of apprehending its terms, rather than distinct non-complex cognitions of single terms and a complex cognition of the proposition. Similarly, there might be an act of assent that

26. *Rep.* II, q:20, (OTh V, 425, 443).
27. *Ord.* I, Prologue, q.1, a.1, (OTh I, 16).
28. *Rep.* III, q.2, (OTh VI, 85–86).
29. *Quaest. variae*, q.5, (OTh VIII, 171–73).
30. *Ord.* I, Prologue, q.1, a.1, (OTh I, 16).
31. *Ibid.*, (OTh I, 17); a.6, (OTh I, 59).
32. *Ibid.*, a.1, (OTh I, 21).

was at one and the same time an act of apprehending the complex of terms, rather than two distinct acts, one of apprehension and one of judgment.[33] Nevertheless, numerically distinct acts are often involved; and either way an act of judgment logically presupposes an act of apprehension but not vice versa.

## 2. DISTINCTION BETWEEN INTUITIVE AND ABSTRACTIVE COGNITIONS

According to Ockham, acts of apprehension are mental acts of awareness. But experience makes us aware of differences among our acts of apprehension. My awareness of the chair that I see is different from my awareness of the chair that I imagine. Again, my awareness of my present pain is different from my awareness of the pain I had yesterday. Where sensible things are concerned, this may be the difference Hume was trying to mark when he distinguished impressions from ideas.[34] Duns Scotus had tried to capture it by distinguishing intuitive from abstractive cognitions. According to Scotus, intuitive cognitions are those which (i) are of the object as existing and present, and (ii) are caused in the perceiver directly by the existing and present object; whereas abstractive cognitions are those which (iii) either are not of the object as existing and present but abstract from the existence and presence of the object, or are of an object which is in fact not existing or present, and (iv) are not caused by the existing and present object directly, but rather indirectly by means of a species or *likeness of the object*.[35]

Ockham is confident that he can identify in experience those acts of apprehension that Scotus called intuitive cognitions. According to Ockham, experience "certifies" that we can have an

33. *Ibid.*, a.6, (OTh I, 59).

34. *A Treatise of Human Nature*, Book I, Part I, sec.1.

35. Scotus elaborates this distinction in discussions in his *Quodlibeta* and in his commentaries on the *Sentences*. For a review of the relevant texts, see Sebastian Day's *Intuitive Cognition: A Key to the Significance of the Later Scholastics*. (St. Bonaventure, NY, 1947). For Ockham's critique of Scotus, see *Ord.* I, Prologue, q. 1, a.1, (OTh I, 33–38).

intuitive cognition of Socrates and his whiteness.[36] He even suggests that we can know from experience that we do not, by any natural cause, have intuitive cognitions of absent things.[37] Nevertheless, Ockham rejects Scotus's attempt to distinguish intuitive from abstractive cognitions on the basis of their content or of their causes. First Ockham insists that "if a thing is an object of an intuitive cognition, then the same thing under the same aspect can be the object of an abstractive cognition."[38] Nor is it right to say that intuitive cognition is possible only of existing objects. Even though in the natural order of things we have intuitive cognitions only of existing things, still it would be possible for God to cause us to have an act of apprehension of this sort, even when the object does not exist.[39] For "whatever God can do through an intermediate efficient cause, He can do all by Himself immediately."[40] Therefore, God could directly produce acts that possess the distinctive feature that makes them intuitive.[41]

What is Ockham's criterion for distinguishing intuitive from abstractive cognitions? According to Ockham, an intuitive cognition of a thing is ⌜that by virtue of which one can have evident knowledge of whether or not a thing exists⌝, or more broadly, of whether or not a contingent proposition about the present is true.[42] By contrast, abstractive cognition in this sense[43] is ⌜a noncomplex apprehension of terms by virtue of

36. *Ord.* I, Prologue, q.1, a.1, (OTh I, 23).

37. *Rep.* II, q.12–13, (OTh V, 269).

38. *Ord.* I, Prologue, q.1, a.1, (OTh I, 36–37); cf. d.27, q.3, (OTh IV, 242).

39. *Ibid.*, Prologue, q.1, a.1, (OTh I, 35–36).

40. *Ibid.*, (OTh I, 35).

41. *Ibid.*, (OTh I, 37).

42. *Ibid.*, (OTh I, 31–32); *Rep.* II, q.12–13, (OTh V, 256–57); cf. *Quodl.* V, q.5, (OTh IX, 496).

43. In the *Ordinatio* I, Prologue, q.1, a.1, (OTh I, 30–31), Ockham notes that 'abstractive cognition' can be taken in two ways: one way for the cognition of a universal that can be abstracted from many particulars; and another way as contrasting with intuitive cognitions. The first way, the content of the cognition is more abstract than that of the cognition of a particular; the second way, the content is no more abstract than that of an intuitive cogni-

which it is not possible to have evident knowledge of whether or not a thing exists, or whether or not a contingent proposition about the present is true.[44]

By 'evident knowledge of a proposition' Ockham does not mean knowledge based on grounds or evidence from which the proposition is inferred. Instead, Ockham defines 'evident cognition' as the cognition of a true complex of terms or proposition, a sufficient mediate or immediate efficient cause for which is a noncomplex cognition of its terms.[45] (According to Ockham, the intellect itself is the material cause of such acts.)[46] Any apprehension of the terms will suffice to give us evident knowledge of simple analytic propositions. But where contingent propositions are concerned, only intuitive, not abstractive cognition naturally suffices to produce evident knowledge. In fact, according to Ockham, this is the definitive difference between intuitive and abstractive cognition.[47]

Ockham makes it clear that 'by virtue of which' (*virtute*) or

tion, according to Ockham, but the cognition is not the sort that can cause an evident judgment about the existence or nonexistence of the particular. Ockham modifies the latter claim in *Quodlibeta* I, q.13, (OTh IX, 74, 77), when he concedes that no abstractive cognition is proper to a particular (see section 7 below). Every cognition that is abstractive in either of the above two senses is a noncomplex cognition. In *Reportatio* II, q.12–13, (OTh V, 257), however, Ockham recognizes a broad sense of 'abstractive cognition', according to which every cognition other than an intuitive cognition is an abstract cognition. This way, not only the above mentioned noncomplex cognitions, but also every complex cognition will count as an abstractive cognition. But Ockham almost never uses the term 'abstractive cognition' in this broad sense.

44. *Ord.* I, Prologue, q.1, a.1, (OTh I, 32); *Quodl.* V, q.5, (OTh IX, 496).

45. *Ord.* I, Prologue, q.1, (OTh I, 5).

46. See *Quaest. variae*, q.5, (OTh VIII, 166–67).

47. In *Quaestione variae*, q.5, (OTh VIII, 183–89), Ockham adds to the list of evident cognitions the cognition of the conclusion of an argument caused by an evident cognition of its premisses. And he notes that in this case "the evidence of the object is not taken precisely from the terms..." (OTh VIII, 186). Normally, however, Ockham restricts the class of evident cognitions for those by which we have non-inferential knowledge of true propositions.

'by means of which' (*mediante qua*)[48] expresses a causal notion,[49] and hence that cognitions—like other things—are sorted into species by means of their causal powers (see Part Four, chapter 18 below). Ockham holds that God is an immediate partial cause of every act of understanding as well as of every other effect because of "his general influence" in upholding or maintaining the causal order.[50] And he thinks that the causal powers in this world are naturally so distributed that the existing and present object is a mediate or immediate cause both of the existence and conservation of an intuitive cognition.[51] Further, the causal powers are such that—barring any obstacle to their action[52]—an intuitive cognition together with the existing and present object suffices to cause the intellect to judge that the object exists. Likewise, an intuitive cognition of Socrates and his whiteness will act together with Socrates and his whiteness to cause the judgment that Socrates is white.[53] Nor can this process be naturally obstructed by a simple act of will on the part of the one who has the intuitive cognition. Arguments or persuasion would be needed to make the opposite judgment causally possible.[54] Ockham thinks that all of the intuitive cognitions that we actually have are caused by the existing and present objects of those cognitions and that therefore in every actual case of intuitive cognition we are caused to judge

48. In *Rep.* II, q.12–13, (OTh V, 256).

49. For example, in *Ordinatio*, Prologue, q.1, a.6, (OTh I, 71, lines 4–9), he writes: "Therefore, the intuitive cognition of the thing and the thing *cause* the judgment that the thing exists. But when the thing does not exist, the intuitive cognition without the thing will cause the opposite judgment. Therefore, I grant that the cause of the judgments is not the same, because the cause of the one is the cognition without the thing and the cause of the other is the cognition acting together with the thing as a partial cause" (italics mine; cf. *Rep.* II, q.12–13, (OTh V, 276).

50. *Quaest. variae*, q.5, (OTh VIII, 162–63).

51. *Ord.* I, Prologue, q.1, a.1, (OTh I, 38); cf. *Rep.* II, q.12–13, (OTh V, 258–260, 268).

52. *Ord.* I, Prologue, q.1, a.1, (OTh I, 31, lines 22–23); a.1, (OTh I, 33); a.6, (OTh I, 70).

53. *Ibid.*, q.1, (OTh I, 6).

54. *Ibid.*, q.7, (OTh I, 192).

that the object exists.

Nevertheless, God could withdraw "his general influence" and act alone to conserve acts of intuitive cognition. Ockham suggests, for example, that God could conserve one's intuitive cognition of a star, while bringing it about that the star no longer existed.[55] But he thinks the intuitive cognition, taken by itself, has causal efficacy only to produce judgments of nonexistence.[56] In such a case one would be caused by one's intuitive cognition of the star to judge that the star did not exist. Further, Ockham says that God could act alone to cause one to have an intuitive cognition of an existing but absent object. In that case, one would be caused to judge that the object exists.[57] It is clear that an intuitive cognition of an existing but absent object could serve as a partial cause only of a judgment of existence, since any judgment of which an intuitive cognition is a total or partial cause is an evident and therefore true judgment. But the intuitive cognition without the object naturally suffices only to cause judgments of nonexistence, not judgments of existence. Ockham does not say what would act together with the intuitive cognition to produce the judgment of existence in this case, but most probably he would say that it is God Himself. Finally, Ockham says that God could act alone to prevent an intuitive cognition from causing any judgment at all.[58]

55. *Ibid.*, q.1, a.1, (OTh I, 38–39); cf. *Quodl.* VI, q.6, (OTh IX, 605).

56. *Ord.* I, Prologue, q.1, a.1, (OTh I, 31); cf. a.6, (OTh I, 71).

57. *Rep.* II, q.12–13, (OTh V, 258).

58. *Ord.* I, Prologue, q.1, a.6, (OTh I, 70); cf. *Quodl.* V, q.5, (OTh IX, 499). In reply to one objection, Ockham speculates that "perhaps there is no difficulty in a thing's being intuitively seen and nevertheless the intellect believes that the thing does not exist, although this could not happen naturally. It is enough for a cognition to be intuitive that it is in itself sufficient for producing a correct judgment of existence or nonexistence" (*Ord.* I, Prologue, q.1, a.6, (OTh I, 70)). Presumably, Ockham has in mind a case in which God prevents the intuitive cognition from causing any judgment and in which God or something else acts to produce a false judgment about the existence or nonexistence of the thing. This would not run contrary to Ockham's contention in other passages that it is a logically necessary condition of a cognition's being intuitive that any judgments *it* causes are true ones.

In sum, then, Ockham thinks that an intuitive cognition is naturally produced only by the existing and present object, and that the intuitive cognition, together with the existing and present object, naturally suffices to produce a judgment of existence. Further, he thinks that the intuitive cognition alone naturally suffices only to produce a judgment of nonexistence. Thus, intuitive cognitions are acts of apprehension which have the causal efficacy to produce an evident judgment of existence when the object exists, and of nonexistence when the object does not exist. Since any natural cause can be obstructed, it is not logically or metaphysically necessary for a cognition to be intuitive that it cause a judgment. But it is logically or metaphysically as impossible for an intuitive cognition to cause a false judgment as it is for heat to cool (see Part Four, chapter 18 below). An abstractive cognition is an act that by nature lacks this power.[59]

## 3. SENSORY AND INTELLECTUAL INTUITIVE COGNITIONS OF SENSIBLE PARTICULARS

Ockham thinks that the objects of such acts of apprehension include sensible particulars and particular mental acts;[60] and that both the senses and the intellect are capable of intuitive and

59. Thus, Ockham's remark in *Ord.* I, Prologue, q.1, a.1, (OTh I, 38)—"Therefore, I maintain that intuitive and abstractive cognitions differ of themselves and not at all with respect to their objects or any of their causes"—can be misleading, if the 'of themselves' is stressed out of context (the way it appears to be in Gilson's discussion in his *History of Christian Philosophy in the Middle Ages*, (New York, 1955), 490 and 784, note 8). For five pages prior to the above remark, Ockham has been attacking Scotus's attempt to distinguish intuitive from abstractive cognition (OTh I, 33–38). When Ockham says that intuitive and abstractive cognitions differ in themselves, this claim is to be contrasted with Scotus's contention that they differ as regards their objects and what causes them. Ockham does not mean that there is no difference as regards the causal relations into which they can enter. For on his full account, intuitive cognitions differ from abstractive cognitions precisely in the fact that they cannot be the cause of any false judgments, while abstractive cognitions can.

60. *Ord.* I, Prologue, q.1, a.6, (OTh I, 69).

abstractive cognition.[61]

Ockham maintains that when a human being is aware of a sensible particular and thereby acquires evident knowledge of its existence and/or of some contingent proposition about it, both sensory and intellectual intuitive cognitions are involved. When, for example, I look at a sensible particular, it causes me to have a sensory intuitive cognition of itself under those aspects (namely, color and shape) that can be perceived by vision. But Ockham does not see how the senses could apprehend a complex (such as 'Socrates is white') and proceed to pass judgment on it themselves.[62] Nor is the sensory intuitive cognition "an immediate proximate cause—whether partial or total—of an act of judgment by the intellect."[63] For "every act of judgment presupposes an act of apprehension in the same power."[64] Therefore, the intellect could not formulate any singular propositions or pass judgment upon them unless it apprehended particulars. Indeed, Ockham insists that without intellectual intuitive cognition of particulars, the intellect could not have any knowledge of any contingent propositions.[65] Consequently, it must be an intellectual act of apprehension, not a sensory one, that is an immediate and proximate partial cause of an act of judgment. And the immediate and proximate cause of evident knowledge of such a proposition would be an intellectual intuitive cognition of its terms.

Why does Ockham hold that "every act of judgment presupposes an act of apprehension *in the same power*"?[66] It seems clear that my intellect cannot judge that Socrates is white, unless I am somehow aware of Socrates and whiteness. But my soul has many powers. Why does Ockham deny that my sensory awareness of Socrates and his whiteness is enough for this

61. *Ibid.*, (OTh I, 63–65).
62. *Rep.* III, q.2, (OTh VI, 85–86).
63. *Ord.* I, Prologue, q.1, a.1, (OTh I, 22).
64. *Ibid.*, (OTh I, 21); cf. (OTh I, 25, line 15)–(OTh I, 26, line 10).
65. *Ibid.*, d.3, q.6, (OTh II, 494); cf. Prologue, q.1, a.1, (OTh I, 43, line 10–11).
66. *Ibid.*, (OTh I, 21).

purpose?

Ockham's secretary Adam Wodeham remarks that this conclusion "follows necessarily from one of his tenets with which I disagree—viz., that the intellectual and sensory souls are distinct forms in man..."[67] This explanation fits well with Ockham's remarks in *Reportatio* III, q.3, (OTh VI, 125), where he acknowledges that some of the principles laid down in the Prologue of his *Sentence*-commentary—viz., those to the effect that an act of type *A* in a power presupposes an act of type *B* in the *same* power—need revision. For since the sensory soul in man is a single form that has many powers, one sensory power may have an act of type *A* provided only that some sensory power or other—not necessarily the same one—has an act of type *B*. Thus, my intuitive cognition of Socrates and his whiteness can be a partial cause of my abstractive imagining of Socrates and his whiteness, because my visual and imaginative powers are powers of numerically the same substantial form, while my vision of Socrates and his whiteness cannot be a partial cause of your imagining them, because your sensory soul is a numerically distinct substantial form from mine. Given Ockham's belief that my sensory soul and my intellectual soul are really distinct substantial forms (see Part Four, chapter 15), my sensory apprehension of Socrates and his whiteness is of no more use to my intellectual soul in formulating the propositon 'Socrates is white' and passing judgment on it, than your apprehension of these things is. Thus, he concludes that an act of judgment presupposes an intellectual as well as a sensory apprehension.

Nevertheless, the sensory intuitive cognition is not causally superfluous. For where souls are connected with bodies as human souls are in this life, having a sensory intuitive cognition is a causally necessary condition of having an intellectual intuitive cognition of a sensible particular.[68] At one point, Ockham

67. *Quaestiones in I librum Sententiarum*, Prologue, q.1, fol.105va; I translate from a transcription lent to me by Father Gedeon Gál, who called my attention to this question.

68. *Ord.* I, Prologue, q.1, a.1, (OTh I, 27, lines 10–18); a.6, (OTh I, 67, lines 11–15); *Rep.* II, q.12–13, (OTh V, 302–303).

suggests that this fact is a consequence of the first sin.[69] And he allows that angels and souls separated from bodies can naturally have intellectual intuitive cognitions without prior sensory intuitive cognitions.[70] The sensory intuitive cognition of a given object under a given aspect causes an intellectual intuitive cognition of the same object under the same aspect.[71] It is the latter act that is the immediate partial cause of the act of judgment. But the sensory intuitive cognition of the object is a *mediate* partial cause of that judgment, since it is an immediate partial cause of the intellectual intuitive cognition.

## 4. OUR AWARENESS OF IMMATERIAL THINGS

Aquinas argued that the human mind was designed to abstract the natural forms of material things. But he thought that material and immaterial things had no natural forms in common. Consequently, the concepts abstracted by the human mind do not apply univocally, but only analogically to immaterial things.[72] We cannot understand immaterial things as they are in themselves.[73]

Scotus and Ockham both reject Aquinas's view.[74] Appealing to Augustine for support, Ockham insists that we have both intuitive and abstractive cognition of intelligibles that are in no way sensible. Thus he writes,

> ...it is clear that our intellect in this life not only cognizes sensible things, but also has intuitive cognitions of some intelligible things that do not fall under the senses and cognizes them as particulars...For example, acts of intellect, acts of will, the consequent delight and sorrow,

69. *Rep.* IV, q.14, (OTh VII, 316).

70. *Ibid.*

71. *Ord.* I, Prologue, q.1, a.6, (OTh I, 64, line 22)–(OTh I, 65, line 4); cf. q.8, (OTh I, 208–209); d.3, q.5, (OTh II, 474); d.3, q.6, (OTh II, 496–97).

72. *Summa theologiae* I, q.88, a.2.

73. *Ibid.*, a.1.

74. Scotus, *Opus oxon.* IV, d.45, q.3, n.12–18, (Wadding X, 200–208), noted by Ockham, *Ord.* I, Prologue, q.1, a.1, (OTh I, 45–46).

> etc. that a man can experience to exist in himself and that nevertheless do not fall under any sense...[75]

If we had no intuitive cognition of such intelligibles, we could not have evident knowledge of propositions such as 'I understand', 'I love Socrates',[76] 'I am alive', 'I want to be happy', 'I do not want to make mistakes'.[77] But our knowledge of these propositions is the most evident that we have.[78] Ockham apparently understands all of these propositions to be about occurrent mental acts or momentary states. For he thinks that experience shows that "in this life [we do not have] intuitive cognitions of all intelligibles, even of those equally present to our intellects, since [we have them] of acts and not of dispositions (*habitus*)."[79] We know of the latter only by reasoning and inference.[80] Thus, "no one can have an intuitive vision of faith and charity that are dispositions in us, although one could have an intuitive vision of the acts of believing and loving that are elicited when these dispositions exist."[81] Ockham appears to have been genuinely unable to decide whether or not we can have naturally produced intuitive cognitions of our own souls in this life. For he raises the issue at least twice in *Ordinatio* I, d.3 alone—viz., at q.2, (OTh II, 274) and at q.8, (OTh II, 541)—and both times refuses to say one way or the other.

By contrast with modern classical philosophers, Ockham shows only marginal interest in the problem of our knowledge of other minds. In replying to an objection, he does say that we cannot have intuitive cognition of the mental acts of others.[82] In fact, he maintains that we cannot even have an abstractive cognition (in the sense defined above) of Socrates' particular act of loving Plato. Ockham thinks that just as we can think of

75. *Ord.* I, Prologue, q.1, a.1, (OTh I, 39–40).
76. *Ibid.*, (OTh I, 40–41).
77. *Ibid.*, (OTh I, 43).
78. *Ibid.*, (OTh I, 43, lines 7–13, 25–26)–(OTh I, 44, line 6).
79. *Ibid.*, a.6, (OTh I, 69).
80. *Ibid.*
81. *Ibid.*
82. *Ord.* I, Prologue, q.1, a.1, (OTh I, 42, lines 4–7).

physical objects that we have never experienced only by compounding various abstract general concepts, so we can conceive of the particular mental acts of another only by compounding such abstract general concepts. He does not argue for this claim, but apparently thinks it is obvious from experience. Nor does he discuss in any detail whether we have or how we acquire any knowledge or well-grounded beliefs about them. In *Reportatio* II, q.3–4, he does observe that we cannot prove that anything is a human being from the effects we are able to observe, because such observable bodily movements as eating and drinking could be produced by an angel just as easily as by a human soul.[83] On the other hand, unlike modern classical philosophers, Ockham does not see any logical impossibility in one mind's having an intuitive cognition of another or of the mental acts of another. God, of course, has such cognitions of all created minds and mental acts.[84] And in *Quodlibeta* IV, q. 9, he allows that it is possible for the angels to see (intellectually apprehend) our intellects and argues that "since any power can have an intuitive cognition of a subject, it can also have an intuitive cognition of any of its accidents which is apt to be the object of that power. But an angel can see our intellect, and hence can see thoughts."[85] Nevertheless, they do not in fact do so "except when God wills that they do."[86] Hence, for Ockham, it is in principle possible for us and the angels to verify that other minds exist, even though we do not do so in this life.

Ockham maintains that all that is required for us to have intellectual intuitive cognitions of a sensible particular is the existing and present object, together with the intellect and (in this life) the sensory powers of the soul. One might suppose that, by parity of reasoning, only the mental act and the intellect would be required for us to have an intutive cognition of our own mental acts. Nevertheless, this turns out to be an issue on which Ockham vacillates considerably. In *Reportatio* II, q.12–13, he

83. (OTh V, 73).
84. *Ord.* I, d.35, q.5, (OTh IV, 493).
85. (OTh IX, 342).
86. (OTh IX, 343).

takes the expected line, commenting that "just as the power and the object without any species are required for a corporeal intuitive cognition, so the object together with the intellect suffices for an intellectual intuitive cognition."[87] And at one point in the Prologue, Ockham declares that "every act of intellect is evidently known to [the intellect] itself."[88] Nevertheless, Ockham is led in the Prologue to qualify this claim by considering the following objection raised by Walter Chatton:

> ...In that case, infinitely many acts of intellect would exist in the intellect simultaneously. For if there is an intuitive vision of the first act of intellect, this is only because it is sufficiently present to the intellect. But that intuitive cognition of the first intuitive cognition is equally present. Therefore it will be seen by a third act of intellect; and by parity of reasoning, the third, since it is sufficiently present, will be seen by a fourth, and so on.[89]

Ockham agrees that if I can be aware of the first mental act, I can be aware of the second, and so on.[90] Nevertheless, it does not follow that whenever I have one intellectual intuitive cognition, I have infinitely many intuitive cognitions. For

> ...The first act of intellect will be seen by an intuitive cognition and the latter intuition in the present life prevents the second intuition, not absolutely, but because the mere presence of the first act of intellect does not suffice for the second intuition. But the reason why it does not suffice cannot be given except in the nature of the thing which we now know by experience...[91]

Thus, my intellectual intuitive cognition of Socrates together with the intellect suffices to cause an intuitive cognition of that intuitive cognition. But experience shows the causal order

87. (OTh V, 302).

88. *Ord.* I, Prologue, q.7, (OTh I, 191).

89. *Ibid.*, q.1, a.6, (OTh I, 53, lines 13–19); cf. Jeremiah O'Callaghan, "The Second Question of the Prologue to Walter Catton's Commentary on the *Sentences*: On Intuitive and Abstractive Knowledge," *Nine Medieval Thinkers*, ed. J. Reginald O'Donnell, (Toronto, 1955), 233–269, at 257.

90. *Ord.* I, Prologue, q.1, a.6, (OTh I, 65, line 22)–(OTh I, 66, line 3).

91. *Ibid.*, (OTh I, 66, lines 8–13).

simply to be such that the second intuitive cognition, together with the intellect, is not a sufficient cause of the third. Why God has ordered the causes this way, we simply do not know. Nor does Ockham explain in the Prologue what the other partial causes of the third and fourth acts of apprehension might be. In *Quodlibeta* I, q.14, Ockham repeats the answer that the infinite process is avoided because at some point there is a natural obstacle to further intuitive cognitions of intuitive cognitions, but he does not make clear whether this obstacle is a positive obstacle or merely the lack of some necessary partial cause.[92]

In *Quaestiones variae*, q.5, (OTh VIII, 177–78), Ockham offers an alternative, and in my opinion, a better solution to this difficulty. There he maintains that the mental act alone is never a sufficient cause of an intuitive cognition of itself, but rather the mental act taken together with a volition to be aware of it. It is "in the power of the will to reflect on its own act or on an act of intellect" or not.[93] And it is the presence or absence of volitions to be aware of such acts that explains why we are sometimes aware of them and sometimes not, and why we have one intellectual intuitive cognition without having infinitely many of them.

Apparently, Chatton was unconvinced. For while acknowledging that we do have evident knowledge of propositions such as 'I understand a stone', he explains that

> ...the soul experiences something in two ways, since it experiences something as an object and something the way a subject experiences its own act...Therefore, although the experiences by which the soul experiences something as an object require an intuitive cognition..., the experiences by which it experiences something as its act and not its object do not require such an intuitive cognition. And for this experience to occur, is only for a subject to receive its act.[94]

Assent to 'I understand a stone' is caused when an intuitive cognition of a stone is received into the soul. Since sensible

92. (OTh IX, 79–82).
93. (OTh VIII, 178).
94. *Lectura in Sententias*, Prologue, q.2, (O'Callaghan ed., 257).

things are the only particulars that can be objects of thought, the infinite regress of intuitive cognitions of intuitive cognitions cannot get started.

Even though Ockham thinks that we can have intuitive cognitions of intelligibles that are in no way sensible, he follows Aristotle in saying that

> nothing can be understood without phantasms, because every intellectual intuitive cognition in this life necessarily presupposes a sensory cognition of both the external and internal senses.[95]

As indicated above, where awareness of sensible particulars is concerned, sensory intuitive cognition is a causally necessary condition of intellectual intuitive cognition. As for our awareness of our own mental acts, Ockham says,

> ...likewise, an intuitive cognition of an act of intellect or an affection or delight etc. Nevertheless, if it were possible for love to exist in the will without any previous cognition, the intuitive cognition of that love would not presuppose another. But this is impossible in this life...[96]

To be sure, an act of intellect or will presupposes some awareness of its object. But that fact by itself does not show that every intellectual intuitive cognition presupposes a sensory cognition. As Ockham himself has insisted, not every intuitive cognition has a sensible particular for its object. Ockham's remarks in the last two sentences are likewise puzzling. For he indicates that it is not possible in this life that an act of love should exist apart from every previous cognition of its object. The "in this life" might suggest that on Ockham's view, this will be possible in the next life. Perhaps all Ockham means to say is that it is in principle possible for an act of love to exist without any numerically distinct, temporally prior cognition of its object; but not that it is logically possible for an act of love to exist without any awareness of its object.

I suspect Ockham's position was this. In this life, all intellec-

95. *Ord.* I, Prologue, q.1, a.6, (OTh I, 67, lines 8–10).
96. *Ibid.*, (OTh I, 67, lines 15–20).

tual cognition begins with the intuitive cognition of sensible particulars. Thus, if we single out some awareness of a mental act, we will, if we trace the chain of awareness back to its starting point, eventually come to an act whose object is a sensible particular. What will be possible in the next life is not to have an act of love apart from any and every awareness of an object, but to have an act of love without a preceding intuitive cognition.

## 5. ABSTRACTIVE COGNITIONS AND OCKHAM'S THEORY OF MEMORY

Ockham has contrasted intuitive cognition through which we can naturally have evident knowledge of contingent truths, with "abstractive cognition...through which we do not judge a thing to be when it is and not be when it is not."[97] If in the natural course of things we have intuitive cognitions when we are aware of existing and present objects, we presumably have abstractive cognitions when we imagine, remember, anticipate, or hallucinate things. Ockham quite obviously did not develop a fully comprehensive theory about how abstractive cognitions are produced. Instead, having noted a general dependence of abstractive cognitions on prior intuitive cognitions, he concentrates on the production of "recordative" or memory cognitions. Later, in *Reportatio* III, q.6, he sketches an account of sensory imagination.

In general, then, Ockham thinks that just as every naturally acquired intellectual intuitive cognition presupposes sensory intuitive cognition, so

> ...every naturally acquired abstractive cognition of a thing presupposes an intuitive cognition of the *same* thing. The reason for this is that no intellect can naturally acquire a cognition of a thing unless by means of that thing acting as a partial efficient cause. But every cognition for which the coexistence of the thing is necessary is an intuitive cognition. Therefore, the first cognition of a thing is intuitive. Nevertheless, God can cause an abstractive cognition both of deity and of

97. *Rep.* II, q.12–13, (OTh V, 261).

other things without any previous intuitive cognition...[98]

As it stands, Ockham's claim here has the consequence that someone who has not had an intuitive cognition of a purple cow cannot imagine a purple cow—which is contrary to experience. No doubt, he intended this remark to be understood in the light of his distinction between simple and composite concepts, as the assertion that we have no simple abstractive cognitions—e.g., no abstractive cognition of purple—without having a simple intuitive cognition of the same thing. So understood, Ockham's principle anticipates the Humean dogma that we have no simple ideas without prior corresponding simple impressions. And in *Ordinatio* I, d.3, q.2, he defends it by appealing to Aristotle's observation (in *Physics*, II, 1, 193a6–9) that "otherwise a man blind from birth could thus have an abstractive cognition of colors, just as anyone else can—which is obviously false."[99]

If Ockham thinks that intuitive cognitions are causally necessary for having an abstractive cogntion of a given object at some other time, he does not think that they are causally sufficient. He maintains that "in order to have an abstractive cognition, one must necessarily suppose something prior besides the object and the intellect."[100] The reason is that "every power that is now able to issue in some act which it was not able to issue in earlier, now has something that it did not have earlier." But, according to Ockham, an abstractive cognition of a given object is naturally possible only after intuitive cognitions, not before. Therefore, intuitive cognition must, directly or indirectly, cause something to exist in the intellect that did not exist there prior to the intuitive cognition. Ockham argues against Aquinas and Scotus that what the intuitive cognition leaves behind is not a species, but a disposition or habit inclining one to have the abstractive cognition,[101] but I shall not

98. *Ord.* I, Prologue, q.1, a.6, (OTh I, 72, lines 3–8); d.3, q.9, (OTh II, 544).

99. (OTh II, 410).

100. *Rep.* II, q.12–13, (OTh V, 269).

101. *Ibid.*, (OTh V, 271–76).

discuss these arguments here.

Ockham begins his discussion of recordative or memory cognitions in particular by introducing them as a subdivision of intuitive cognition: they are "imperfect intuitive cognitions" whereas those discussed in the preceding sections are "perfect intuitive cognitions."[102] But in numerous places he refers to them as abstractive[103] and even as "absolutely abstractive."[104] According to his initial description, recordative cognition is "that by which we judge that a thing was, or was not, at some time."[105] For example, he says that "when I see a thing intuitively, there is generated a habit that inclines me to have an abstractive cognition, by means of which I judge an assent that such a thing was at some time, because I saw it at some time."[106] He does not at first specify that the judgment about the past must be evident, in order for the cognition to be recordative. But he asserts this qualification later in the section[107] and again when he draws the distinction between perfect and imperfect intuitive cognitions at *Reportatio* IV, q.14. This requirement fits with our ordinary refusal to say that someone remembers a past situation $p$ unless $p$ was the case. Thus, recordative cognition is similar to perfect intuitive cognition in that it is naturally a partial cause of evident judgments about contingent propositions.[108] Unlike perfect intuitive cognition, recordative cognition can occur naturally even when its object no longer exists.[109] Further, it is not a partial cause of evident judgments of contingent truths about the present, but only about the past.[110] In at least two places, Ockham widens the scope of imperfect intuitive cognition to include cognitions

102. *Ibid.*, (OTh V, 261–62).
103. *Ibid.*, (OTh V, 261, 265, 277, 302); q.14, (OTh V, 334–35).
104. *Ibid.*, q.12–13, (OTh V, 262).
105. *Ibid.*, (OTh V, 261).
106. *Ibid.*
107. *Ibid.*, (OTh V, 262).
108. *Ibid.* II, q.12–13, (OTh V, 262).
109. *Ibid.*
110. *Ibid.*, q.16, (OTh V, 363).

that are partial causes of evident judgments about the future.[111] But he does not discuss such anticipatory or premonitory cognitions or the psychological mechanisms involved in producing them. Probably he was thinking of proper predictions which are caused naturally.

Ockham discusses two theories of how recordative cognitions are naturally produced, and his words do not make unambiguously clear which of the two he preferred. According to Philotheus Boehner, an examination of the manuscripts and text tradition shows that the theory presented first at *Reportatio* II, q.12–13, (OTh V, 261–65) and repeatedly alluded to[112] represents Ockham's considered opinion, while the theory discussed at *Reportatio* II, q.12–13, (OTh V, 263–64, 266–67) is Ockham's original but later discarded view.[113] I am in no position to evaluate Boehner's arguments based on the text tradition. But the fact that Ockham repeatedly alludes to the former rather than the latter theory supports Boehner's conclusion. If he is right, however, it seems to me that Ockham discarded the better as well as the simpler of the two theories.

According to Boehner, Ockham's final view is that

> ...while there is an intuitive cognition of some thing, I have at one and the same time an abstractive cognition of the same thing. And that abstractive cognition is a partial cause that acts together with the intellect to produce a habit that inclines me to have an imperfect intuitive cognition, through which I judge that a thing was at some time...[114]

Ockham's motive for saying that at one and the same time there is in the intellect both an intuitive and an abstractive cognition of the same object is an Aristotelian principle to which Ockham often appeals in his psychology: viz., "that a habit is always produced by acts that incline one to have similar acts of the same species."[115] But "an imperfect intuitive cognition is absolutely

111. *Ibid.*, q.14, (OTh V, 334–35); q.16, (OTh V, 363).

112. E.g., at *ibid.*, (OTh V, 276, 302); *Ord.* I, d.27, q.3, (OTh IV, 242).

113. "The Notitia Intuitiva of Non-Existents according to William Ockham," *Collected Articles on Ockham*, #17, 268–300, at 273–74.

114. *Rep.* II, q.12–13, (OTh V, 261–65).

115. *Ibid.*, (OTh V, 262).

an abstractive cognition" and "a perfect intuitive cognition and an abstractive cognition are of different kinds."[116] Therefore, the disposition for having a recordative cognition must be caused by an abstractive cognition. But it is possible that we should have a recordative cognition of an object immediately after we have ceased to have an intuitive cognition of it. Therefore, the abstractive cognition that causes the disposition must be simultaneous with the intuitive cognition.[117] Elsewhere, Ockham says that this abstractive cognition "immediately follows the intuitive cognition"[118] or that it "always follows the intuitive cognition,"[119] although it does not continue to exist after the intuitive cognition ceases to exist. Ockham's thought in these passages may be that the intuitive cognition exists a short interval, that the abstractive cognition is produced at some time after the first instant,[120] and that a recordative cognition is possible only after the intuitive cognition has ceased to exist.

Thus, according to this theory, the object, the intellect, and the intuitive cognition act as partial causes to produce an abstractive cognition simultaneous with or immediately following the intuitive cognition. This abstractive cognition has exactly the same content as the intuitive cognition[121] but is not apt to cause any judgment—whether "that a thing exists or that it does not exist, not even according to any differentia of time"[122]—but it does cause a disposition or habit in the intellect inclining it to have a recordative cognition. The recordative cognition is naturally apt to cause an evident judgment concerning a contingent truth about the past.[123]

Ockham offers a parallel account of sensory imagination in

116. *Ibid.*
117. *Ibid.*, (OTh V, 262–63) and q.14, (OTh V, 333).
118. *Ibid.*, q.12–13, (OTh V, 274); *Ord.* I, d.27, q.3, (OTh IV, 242).
119. *Rep.* II, q.12–13, (OTh V, 277).
120. *Ibid.* III, q.2, (OTh VI, 65).
121. *Ord.* I, d.27, q.3, (OTh IV, 242).
122. *Rep.* II, q.14, (OTh V, 335); cf. q.12–13, (OTh V, 292).
123. *Ibid.*, q.12–13, (OTh V, 266–67); q.14, (OTh V, 334–35).

*Reportatio* III, q.6. My sensory intuitive cognition of Socrates' whiteness acts on my sensory power of imagination to produce my first act of imagining Socrates' whiteness.[124] The latter is an abstractive cognition and—since causes are simultaneous with their effects (see Part Four, chapter 18 below)—comes into existence while the sensory intuitive cognition still exists.[125] The first act of imagination then produces in the power of sensory imagination a habit that is a partial cause inclining the power to elicit similar acts of imagining Socrates' whiteness when it and the sensory intuitive cognition are absent or nonexistent.[126]

The Aristotelian principle—that a disposition to *A* can be caused only by an act of the same species as acts of *A*-ing – does explain why Ockham assumes an abstractive sensory cognition simultaneous with the intuitive cognition. But it will force us to posit an abstractive *intellectual* cognition in addition to an intuitive one, only on the assumption that recordative cognitions are of the same species as the abstractive cognition but of a different species from the original intuitive cognition. And while Ockham does claim this, a consideration of the similarities and differences among these three types of acts makes this classification seem arbitrary. According to the theory as developed so far, none of the three cognitions differs from the others in content. Ockham has said that perfect and imperfect intuitive cognitions differ into two respects: (i) perfect intuitive cognitions are naturally apt to cause an evident judgment regarding a contingent truth about the present while imperfect intuitive cognitions are naturally apt to cause evident judgments regarding only a contingent truth about the past or future, and (ii) perfect intuitive cognitions are naturally produced only when the object exists and is present, while imperfect intuitive cognitions can be naturally produced even when the object does not exist. According to the theory, however, the abstractive cognition that is assumed to be simultaneous with or immediately consequent upon the intuitive cognition resembles imperfect intuitive cognitions with respect to the second fea-

124. (OTh VI, 123–24).
125. (OTh VI, 124–25).
126. (OTh VI, 120–21).

ture only. Ockham has even argued that it cannot resemble imperfect intuitive cognitions with respect to the first feature. For if it did, it would itself be an imperfect intuitive cognition, and there would be some imperfect intuitive cognition caused directly by a perfect intuitive cognition—which is contrary to the theory.[127] It would seem as reasonable to classify recordative cognitions as intuitive cognitions as to regard them as abstractive cognitions, and even more reasonable to say that they constitute a species of their own, distinct from that of perfect intuitive cognitions and from that of abstractive cognitions that are not apt to cause evident judgments. In either case, it would then be a violation of the Aristotelian principle invoked by Ockham to say that the abstractive cognition that is simultaneous with or immediately following the intuitive cognition and that is apt to cause no evident judgments, is the cause of a disposition or habit inclining one to have a recordative cognition. On the former classification, the perfect intuitive cognition could cause the habit directly and it would be superfluous to assume an abstractive cognition simultaneous with it. On the latter, neither of these supposed cognitions could cause the habit, and Ockham would either have to abandon the Aristotelian principle or give up his claim that a habit is involved in the production of the first recordative cognition. Ockham was not oblivious to this difficulty. In *Reportatio* II, q.14, he spells it out in full, then remarks that "the reply to this is clear from what was said above."[128] Presumably, it consists in his insistence that imperfect intuitive cognitions are of the same species as the first abstractive cognition, even though the latter is not apt to cause any evident judgment.

According to Ockham's earlier theory, "a habit is produced by an intuitive cognition [acting] as its partial cause and the abstractive cognition that is assumed to be simultaneous with the intuitive cognition can be denied."[129] In defense of this, Ockham notes that "no one experiences that he at one and the

127. *Ibid.* II, q.14, (OTh V, 336–37).
128. (OTh V, 337).
129. *Ibid.*, q.12–13, (OTh V, 265).

same time cognizes the same thing both intuitively and abstractively...but rather a man experiences the opposite."[130] Ockham judged that fewer undesirable consequences would arise from compromising the Aristotelian principle in this case than from advancing a theory that was openly contrary to experience.[131] He tried to soften his disagreement with the principle by asserting that a qualified version of it is true: viz., where the act in question is the total cause of the habit, but not where the act is only a partial cause. In this case, the intuitive cognition is not the total cause but acts together with the intellect and the object to produce the habit inclining one to have a recordative cognition. This theory seems to be the more satisfactory of the two. Nevertheless, Ockham apparently came to feel that the unqualified version of the Aristotelian principle was so central to his psychology that he could not consistently violate it here. And he upholds the unqualified version of it in one of his latest works.[132]

In *Reportatio* II, q.12–13, Ockham concentrates on defending his claim that the intuitive cognition leaves behind a habit, not a species, and on explaining how the habit is produced from the intuitive cognition. He does not say how the recordative cognition is produced from the habit. In *Quaestiones variae*, q.5, (OTh VIII, 161), he notes an objection that the habit alone cannot be a sufficient cause of our thinking of absent or past things. For at any given time, the intellect has dispositions to think of more such objects than it actually thinks of. Ockham grants the objection and indicates that in addition to the habit, "an act of will is the immediate cause of one such object being cognized rather than another, since, evidently, the will wills that one such object be cognized and not another..."[133]

The account in *Reportatio* II, q.12–13, (OTh V, 261–67) suggests that once we have the imperfect intuitive cognition, it acts together with the intellect to produce the judgment that the

130. *Ibid.*
131. *Ibid.*, (OTh V, 266).
132. *Quodl.* II, q.18, (OTh IX, 189–192).
133. (OTh VIII, 191).

thing in question was or was not; just as the perfect intuitive cognition acts together with the intellect and the object to produce the judgment that the thing is, or with the intellect alone to produce a judgment that the thing is not. As stated there, the theory is perfectly general—applying equally to imperfect intuitive cognitions of sensible things and to those of mental acts and passions. For instance, having yesterday had a perfect intuitive cognition of a book on the table, I today have an imperfect intuitive cognition of the same book on the table and am thereby caused to judge that there was a book on the table yesterday. Likewise, I yesterday had a perfect intuitive cognition of my act of seeing the book on the table and today have an imperfect intuitive cognition of that act and am caused to judge that I saw a book on the table.

Ockham's extended discussion of memory in *Reportatio* IV, q.14, (OTh VII, 292–93), offers a different analysis, however. He focuses there on "acts of recording," which he confusingly identifies, not with imperfect intuitive cognitions, but rather with complex acts of apprehending and passing judgment on propositions about the past. And he insists that "...an act of recording has primarily as its immediate object, a past act insofar as it is past..."[134] Ockham emphasizes that the acts in question must be none other than the thinker's own past mental acts and

> ...not the act of someone other than the recorder—i.e., another man's act of speaking or disputing or writing. For I record such only to the extent that I record that I heard or saw him do such things, so that the act of mine which I am recording sometimes has as its term those acts of disputing, reading, etc.[135]

Presumably, he would say the same thing about the past existence of mind-independent states of affairs. Ockham considers the objection that I have acts of recording with respect to propositions about things other than my own past mental acts—e.g., "I record that the master read in the schools then and disputed etc., in such a way that I have an evident cognition

134. (OTh VII, 295). 135. *Ibid.*

of such complexes."[136] And he agrees that we have evident cognitions of propositions about such states of affairs. But he thinks that such evident cognitions insofar as they are produced naturally, invariably *follow from* acts of recording the past existence of our own mental acts. Thus, he writes,

> ...I have one act whose term is the complex 'I have heard the master dispute then'; the term of the other is 'The master shouted in disputing and sat in the chair'. The first cognition is recordative properly speaking. The second is an evident cognition that follows from a recordative cognition. For I do not have an evident cognition that the master shouted except because I heard him dispute and shout then and saw him then etc....[137]

Presumably, when Ockham says that the evident cognition of 'The master was disputing then' follows from the act of recording, he is using 'evident' in its broader sense, according to which propositions validly inferred by a simple inference from evident propositions are known by an evident cognition. And this account assumes an asymmetry between our memories of our own past mental acts and our memories of other past states of affairs, which asymmetry he did not assume in the account in *Reportatio* II, q.12–13 and which he does not find among our cognitions of present states of affairs.

Ockham's remarks in *Reportatio* IV, q.14 also complicate the analysis of how acts of recording are produced. So far as *Reportatio* II, q.12–13 is concerned, the imperfect intuitive cognition acts together with the intellect to cause the formulation of and assent to the past tense proposition. In *Reportatio* IV, q.14, (OTh VII, 293), however, Ockham declares that "a habit produced by abstractive acts, which acts are the partial object of the habit of recording, and the intellect and God" are a sufficient cause of an act of recording. This comment is somewhat puzzling, since one should have thought that the partial object of an act of recording was not the abstractive cognition that (on the later account) is the immediate cause of the habit, but rather the perfect intuitive cognition. Later on, in *Reportatio* IV, q.14,

136. (OTh VII, 296).

137. (OTh VII, 296–97).

(OTh VII, 297–98), Ockham introduces the notion that the complex act of assenting to the present tense proposition—e.g., to 'I hear the master disputing now'—causes a habit that inclines one thereafter to assent to the corresponding past tense proposition. When it is objected that a noncomplex abstractive act could, by the above mentioned Aristotelian principle, cause only a habit inclining one to noncomplex acts of apprehension and not to acts of assent, Ockham grants this and explains that

> ...the habit produced by a past act of the recorder together with many other noncomplex habits inclines partially to an act of recording, and besides this there are some complex habits that incline to an act of recording immediately...A noncomplex habit does not incline one to a complex act—i.e., an act of recording—immediately, but only by means of its own act...[138]

Ockham does not make himself entirely clear, but perhaps he has the following causal chain in mind: The noncomplex cognition—whether the original perfect intuitive cognition or the first abstractive cognition—causes a noncomplex habit that inclines one to have an imperfect intuitive cognition of the same thing. And the acts of formulating and assenting to the present tense proposition cause a habit that inclines one to assent to the past tense proposition. But the latter habit cannot be activated unless the former one is. Thus, the noncomplex habit mediately causes the act of recording by causing the imperfect intuitive cognition, which acts together with the complex habit and the intellect and God to cause the formulation of and assent to the past tense proposition.

## 6. THE PRODUCTION OF ABSTRACT GENERAL CONCEPTS AND JUDGMENTS INVOLVING THEM

Once the intellect has acquired concepts of particulars in intuitive and abstractive cognition, it is able to form concepts whose content is more abstract than the content of any sensa-

138. (OTh VII, 310).

tion can be.[139] Since Ockham identifies universals with such abstract general concepts, the intellect can be said, by such activity of abstraction, to produce universals.[140]

Just how is this abstraction accomplished? Ockham does not say in much detail. Indeed, he shows much more interest in what and how such abstract general concepts signify and what their ontological status is, than in the psychological mechanisms by which they are produced. Nevertheless, his account in *Summa logicae* III–2, c.29, of how we come to have evident knowledge of propositions formed from abstract general concepts sheds some light on the matter:

> The first part of the definition—viz., the genus—cannot be demonstrated of the defined term either *a priori* or *a posteriori*; for example, it cannot be demonstrated that a man is an animal. But knowledge of such a proposition is acquired without a syllogism by means of intuitive cognition. Thus, when these concepts 'man' and 'animal' exist in the intellect and some man is seen, immediately one knows that a man is an animal. Not that these concepts precede the intuitive cognition of a man. Rather this is the process: first, a man is cognized by some particular sense. Then the same man is cognized by the intellect. Given this [intellectual] cognition of that man, [the intellect] comes to have a cognition that is general and common to every man. That cognition which is common to every man is called a concept, intention, or affection (*passio*). When this concept exists in the intellect, immediately the intellect knows, without any discursive reasoning, that a man is something. Then, when it has apprehended an animal or animals other than man, a general cognition common to every animal is produced. This general cognition is common to every animal and is called an affection (*passio*) or mental intention or concept common to every animal. When this concept exists in the mind, the intellect can compound it with the previous concept. When they are mutually compounded by means of the verb 'is', immediately the intellect assents to that complex without any syllogism...[141]

From the above passage, it is clear that an intuitive cognition of a particular is a partial cause of an abstract general concept.

139. *Ord.* I, Prologue, q.1, a.6, (OTh I, 65, lines 4–6).
140. *Rep.* II, q.12–13, (OTh V, 304).
141. (OPh I, 557).

Three points are left obscure, however.

(i) This passage does not make it clear whether Ockham thinks that such an intuitive cognition, together with the intellect, can serve as a total cause of the abstract general concept, or whether some other act of intellect is required. In *Quaestiones variae,* q.5, (OTh VIII, 175), however, he insists that noncomplex cognitions—say of "a whiteness or two whitenesses"—suffice as a natural cause of an abstract general concept of whiteness, just as much as fire suffices as a natural cause of heat. No further activity of the intellect or any act of will is required. This claim is not very plausible. For it seems that we have intuitive cognitions of many things, a concept of whose most specific ~~specific~~ species we should find difficult to abstract. We would not experience this difficulty, if the intuitive cognition, together with the intellect, were a total cause of the abstract general concept.

(ii) Similarly, Ockham does not state unambiguously whether or not he thinks that an intuitive cognition of *one* particular always suffices, or whether it is sometimes necessary to have intuitive cognitions of more than one particular. The wording of the long passage quoted above suggests that we can abstract a general concept of man on the basis of an intuitive cognition of one particular man. On the other hand, he does not say that we can abstract a general concept of animal on the basis of a single animal, but suggests that we must first apprehend at least one animal of a different species as well. Likewise, in *Ordinatio* I, d.3, q.6, Ockham says that

> a cognition of whiteness and of blackness suffices for a cognition of color, and similarly, [a cognition] of two other species [of color] between [black and white] suffice for a cognition of color. And universally, any two species of color suffice for a cognition of color...[142]

Ockham holds here that a cognition of colors of two species is sufficient, not necessary to produce a general concept of color. But if he had thought that a cognition of one species would suffice, one wonders why he did not say so. On the other hand,

142. (OTh II, 501).

in *Quaestiones variae,* q.5, (OTh VIII, 175), Ockham speaks indifferently of "someone who sees a whiteness or two whitenesses" abstracting a concept of whiteness in general—which suggests that an intuitive cogntion of one whiteness would suffice. Perhaps Ockham's view was that an intuitive cognition of one particular is enough to produce an abstract general concept of the most specific species, but that intuitive cognition of particulars from more than one species is required to abstract a general concept of the genus. This conjecture is at least partially confirmed by Ockham's remark in *Quodlibeta* I, q.13 that "...the concept of genus is never abstracted from one individual..."[143] But he adds that the most general concept of being can be derived from the experience of any particular whatever!

Although Ockham thinks that every abstract general concept presupposes for its production, the cognition of some particular or other, he explicitly says that it does not require the cognition of all of them or of any one in particular.

> ...Nevertheless, in any man, the cognition of any universal presupposes the cognition of some particular or particulars. But in different human beings it is sometimes not the cognition of the same particulars that precedes, but of different ones, although the universal concept (*ratio*) known is the same.[144]

Or again,

> In different human beings, however, the cognition of universals begins from cognition of different particulars of different species. For example, a student in Greece begins with a cognition of the particular animals that are found there, and perhaps many of them are not found in Italy. Conversely, for the students in Italy or France or England, and so on for the other regions...[145]

If this were not so, we would not be able to formulate general

143. (OTh IX, 75).
144. *Ord.* I, d.3, q.6, (OTh II, 502).
145. *Ibid.*

propositions such as 'Every man is an animal' without first having an intuitive cognition of every particular human being.

(iii) Ockham does not say in the above passage whether intuitive cognitions are always required for abstraction, or whether abstractive cognitions of particulars are sometimes enough. In *Quaestiones variae* q.5, (OTh VIII, 175), however, he explicitly says that either intuitive or abstractive cognitions of particulars may serve as a basis for making the abstraction.

## 7 THE CAUSES OF PROPOSITION-FORMATION AND ACTS OF JUDGMENT

Ockham says that intuitive cognition is that "noncomplex cognition of a term or terms by virtue of which one can have evident cognition of a contingent truth."[146] His remarks in the Prologue and *Reportatio* II, q.12–13 fill out the causal chain that culminates in assent to a contingent truth. Where judgments about sensible particulars are concerned, the chain starts with the object's causing one to have a sensory intuitive cognition of itself under some aspect. For example, when I look at the existent and present Socrates, if there is no interference with the natural order of causes I will be caused to have a sensory intuitive cognition of Socrates and his whiteness.[147] The sensory intuitive cognition will then cause an intellectual intuitive cognition of the same object under the same aspect. In the above case, I might apprehend Socrates and his whiteness by two distinct intellectual intuitive cognitions or possibly by a single noncomplex cognition.[148] The intellectual intuitive cognition or cognitions, acting together with Socrates and his whiteness, then cause an act of apprehending the copula. But, as Aristotle says, the copula cannot be understood without extremes. Thus,

146. *Ord.* I, Prologue, q.1, a.1, (OTh I, 31).
147. *Ord.* I, Prologue, q.1, (OTh I, 6–7).
148. *Rep.* II, q.12–13, (OTh V, 280–81).

> an act whose term is the copula or the concept of the copula does not have this as its term absolutely, but also has at the same time the subject and predicate as its term. The acts whose terms are only the subject and predicate are noncomplex, but the act whose term is the copula is complex insofar as it has the whole complex as its immediate term...[149]

Since by definition intuitive cognitions can cause only evident cognitions, and since evident cognitions are of true propositions only, the complex thus apprehended must be a true one. And the apprehension of it causes an act of assent. (As noted above, Ockham does allow that there could be complex acts of apprehension without prior and distinct noncomplex acts, and acts of judgment without prior and distinct acts of apprehension.[150] But this is apparently not the natural case.) The complex act of apprehension is also a partial cause of disposition (*habitus*) to understand the whole proposition by one act.[151] An analogous causal chain would be involved in producing judgments about our own mental acts.

In the case just described—where I have an intuitive cognition of Socrates and his whiteness and thereby formulate the judgment 'Socrates is white'—the intuitive cognition of Socrates and whiteness themselves serve as the subject and predicate terms of the mental proposition. No abstract general concept of whiteness is needed. But Socrates is also an animal and a substance. Thus, when I have an intuitive cognition of Socrates, I thereby have an intuitive cognition of an animal and a substance. Can I use my intuitive cognition as both the subject and the predicate terms in the mental propositions 'Socrates is an animal' and 'Socrates is a substance'? It would seem that I cannot. For if I did, the result would be 'Socrates is Socrates', not 'Socrates is an animal' or 'Socrates is a substance'. To formulate the latter, I should have to use abstract general concepts of animal and substance, respectively. Ockham's remarks in *Quodlibeta* I, q.13 confirm this suspicion. Focussing on the case in which I see an object approaching in the distance and judge it

149. *Ibid.*, (OTh V, 280).
150. *Ord.* I, Prologue, q.1, a.6, (OTh I, 59, lines 14–23).
151. *Rep.* II, q.12–13, (OTh V, 280).

to be an animal, he says,

> ...I judge it to be an animal because I have the concept of animal, which is the concept of a genus, earlier...Thus, if I did not have the concept of the genus animal earlier, I would have to judge only that the thing seen was something.[152]

The second sentence seems to allude to Ockham's contention that we cannot abstract the general concept of a genus from the experience of only one member of that genus. The most that would follow from this alone, however, is that I cannot judge that Socrates is an animal if Socrates is the only animal I have ever seen. Ockham here suggests that even if he is the second or third animal I have seen, I must have abstracted the general concept 'animal' prior to this occasion of seeing him, if I am to use this concept in formulating a judgment.

Two singular categorical propositions can be formed from the concept of Socrates and the concept of his whiteness—viz., 'Socrates is white' and 'Socrates is not white'. According to what Ockham says in *Reportatio* II, q.12–13, (OTh V, 256–57), an intuitive cognition of Socrates and his whiteness, together with the existing and present Socrates and his whiteness, are sufficient cause of the intellect's forming and apprehending the true one, 'Socrates is white'. In *Quaestiones variae,* q.5, however, Ockham maintains that a volition is a partial efficient cause of proposition-formation in every case. He argues that

> noncomplex cognitions of the terms and the intellect, if it is active, are natural agents and are no more inclined to form a true proposition than a false one, an affirmative than a negative one...[153]

Hence, they cannot be a sufficient cause of our forming one proposition rather than another. Ockham concludes that

> ...Therefore, I say that the cause of a true proposition's being formed rather than a false one, an affirmative rather than a negative one, is the will. For the will wills to form one and not the other. Therefore, the act that is apprehended after the complex, is formed from a noncomplex

152. (OTh IX, 77–78).

153. (OTh VIII, 169).

> cognition of the terms of the proposition and by an act of will, and this in general...[154]

Thus, it is the noncomplex cognitions of the terms, together with a volition to form one proposition rather than the other, that is the sufficient cause of the intellect's forming a certain proposition.

> ...For, having assumed the act of will by which it wills that such a complex be formed, and having assumed the noncomplex cognitions of the terms of that complex, an act of apprehending or forming that complex necessarily follows, just as an effect necessarily follows its cause.[155]

The inconsistency between Ockham's accounts might be resolved if we supposed that in *Quaestiones variae*, q.5, (OTh VIII, 169–70), he was concentrating on the cases where the noncomplex cognitions are either abstractive cognitions or abstract general concepts rather than intuitive cognitions. But so far as I know, Ockham never removes the inconsistency himself.

Further, just as he claims in *Questiones variae* q.5, (OTh VIII, 169–70), that volitions play an essential role in proposition formation, so in *Questiones variae*, q.5, (OTh VIII, 174–75), he assigns them an essential role in our syllogistic reasoning. For he claims that volitions are a necessary partial cause of our formulating syllogisms.

> ..I say that these acts—viz., of producing a syllogism, forming propositions disposed according to mood and figure—have, as their sufficient causes, noncomplex cognitions of the terms and an act of will by which the will wills to form such complexes. Thus, these noncomplex cognitions of the terms and the volition combine with God to make a total cause of such acts. For given the above mentioned cognitions and volitions, the act of syllogizing follows immediately as an effect without any activity of the intellect...

Where acts of assent or dissent are concerned. Ockham observes that no single reason can be given why assent or dis-

154. (OTh VIII, 170). 155. *Ibid.*

sent to all propositions is caused."[156] But he does try to account for a number of cases. First of all, evident assent, by definition, has a noncomplex cognition of the terms as a sufficient mediate or immediate cause. When evident assent is given to contingent propositions, the noncomplex cognitions of the terms must be intuitive cognitions. Sometimes a person assents to a contingent proposition because of an authority. In that case, "assent to the authority," presumably together with acts of apprehending the proposition and its terms, "causes assent to that proposition."[157] Sometimes a person assents to a contingent proposition "because he wants to believe it...In that case, the volition, together with noncomplex cognitions and an act of apprehending the complex, causes the assent."[158] Again, a person sometimes assents to a proposition that he has inferred from other propositions. Ockham says that in such cases, assent to the premiss(es), together with acts of apprehending the conclusion and its term, causes assent to the conclusion. Ockham never explictly mentions as one of the causes a belief that the conclusion follows from the premisses, although such a belief would seem to be involved in many cases. He does say, however, that if assent to the premiss(es) is evident, and if the inference is necessary and *very evident*, then assent to the conclusion will be certain and evident; and if one has doubts about the premiss(es), and if the inference is necessary and *very evident*, then one may be led to dissent from the conclusion. By including the stipulation that the inference must be very evident, Ockham seems implicitly to acknowledge that whether or not the inference was clear to someone might make a difference as to whether or not he would assent to the conclusion. Again, omitting this proviso, Ockham says that an act of faith with respect to the premisses, together with acts of apprehending the conclusion and its terms, suffice to cause an act of faith with respect to the conclusion.[159] "...Sometimes someone assents to a false proposition or dissents from a true one, and sometimes

156. (OTh VIII, 171–73).
157. (OTh VIII, 173).
158. *Ibid.*
159. (OTh VIII, 185).

the other way around..."[160] In some cases, this happens because some causally necessary condition of dissent or assent, respectively, is lacking. Again, having assented to some false propositions or dissented from some true ones, someone may be led to assent to and dissent from propositions that evidently follow from them. Finally, one may assent to false propositions, respectively, by fallacious inferences.

## 8. COMPLICATIONS AND DIFFICULTIES

The theory Ockham offers in the Prologue to his commentary on the *Sentences* and in *Reportatio* II, q.12–13, seems fairly simple and straightforward. In the natural course of things, when Socrates exists and is present before me, I am caused to have a sensory intuitive cognition of Socrates and his whiteness, which in turn causes me to have an intellectual intuitive cognition of those same objects. And the latter is an immediate partial cause of my judgment that Socrates is white. Simultaneously or immediately thereafter, I have an abstractive cognition of Socrates and his whiteness whose content is exactly the same as that of the intuitive cognition which is a partial cause of habit inclining me to have an imperfect intuitive cognition of these objects. And if I have such an imperfect intuitive cognition later, it will act as a partial cause of my forming the evident judgment that Socrates was white. Thus, Ockham's view seems to be that I have intuitive cognitions of sensible substances and sensible qualities (as well as of my own mental acts and passions) and abstractive cognitions of exactly the same things.

Ockham's further reflections seem to call various aspects of this account into question, however. (8.1) First, Ockham appears to back off from his claim—insisted on in his criticism of Scotus—that our initial abstractive cognitions are of the same object under the same aspect as our intuitive cognitions are. For, as already discussed in Part One, chapter 4, Ockham comes to believe that what makes an act of thought proper to and

160. (OTh VIII, 172).

determinately of one particular rather than others equally similar to it is the fact that the act stands or can stand in the appropriate causal relation to the former and not the latter. But Ockham specifies the appropriate causal relation in such a way that no abstractive cognition bears that relation to any mind-independent particular. And he concludes in *Quodlibeta* I, q. 13, that

> the first simple and abstractive cognition by the primacy of generation is not proper to any particular, but sometimes—indeed always—a common cognition.[161]

As if realizing that this would be contrary to his earlier explanation, Ockham notes the following objection:

> ...it seems that the first abstractive cognition is proper—especially when the object is close enough. For through the first abstractive cognition, I can have a recordative cognition concerning the same thing seen earlier—which I could not do unless I had a proper abstractive cognition of the thing seen earlier.[162]

He replies that

> ...as a result of seeing something, I do have a proper abstractive cognition, but it is not simple but composed of simples. And this composite cognition is a principle of recording, since through it I record concerning Socrates that I saw him so formed and so figured, so colored, of such a height and breadth, and in such a place. And through that composite, I record that I have seen Socrates...[163]

Ockham does not claim that no abstractive cognitions are proper, but only that no simple ones are. Apparently, when I see Socrates and his whiteness, I have an intuitive cognition that is equally similar to many whitenesses but is proper to Socrates' whiteness. But this intuitive cognition causes an abstractive cognition that is equally similar to many whitenesses and proper to none. This consequence is at odds with the account discussed

161. (OTh IX, 74).
162. (OTh IX, 75).
163. (OTh IX, 77).

above, according to which the first abstractive cognition caused by an intuitive cognition of Socrates' whiteness would be one that was proper to that same whiteness. Ockham seems to suppose that the composite concept may be proper because Socrates may be the only thing that has all of the properties conceived of by it. The difficulties with this suggestion parallel those involved with Russell's treatment of ordinary proper names as truncated descriptions, and would cast doubt on whether Ockham's theory ever or often allows us a proper abstractive cognition of anything.

(8.2) Ockham has insisted that all of our mental activity begins with sensory and intellectual intuitive cognitions of particulars. But Ockham's predecessors had appealed to familiar perceptual phenomena in arguing that universals, not particulars, are the first objects of intellect. For example, there is the (alleged) fact that children at first call all men father and all women mother. Again, there is the experience of watching an object approach from the distance. At first, we have a cognition whose content is such that we are able to judge only that the approaching thing is a being; then, only that it is an animal; then, only that it is a man; and finally, that it is Socrates. Ockham's predecessors explained that we are first aware of things under their more universal aspect and then under their more particular aspect.[164] To sustain his own viewpoint, Ockham must provide an alternative explanation of these phenomena.

The examples cited both involve failures of perceptual discrimination. And neither seems to be a case in which the perceiver takes himself to be aware of a universal rather than a particular. We do not think that there is a universal approaching from a distance. Rather we judge that it is some particular or other, although our conception of it does not enable us to tell which particular it is.

So far as the mental-act theory is concerned, Ockham's analysis of what makes a cognition proper to a particular seems to account for these facts. When I see an object approaching in

164. For Ockham's discussion of their views, see *Ordinatio* I, d.3, q.5–7, (OTh II, 442–523).

the distance and my cognition enables me to judge only that it is an animal, this is because my cognition is equally similar to all animals, leaving aside similarities resulting from the fact that my cognition is a mental quality. Nevertheless, the cognition is of one animal rather than another because it was or could have been caused only by that one and not others (see Part One, chapter 4 above).

On the objective-existence theory, however, the fact that a thought is of a particular is analysed in terms of the direction of the mental act towards an objectively existent particular. And if my thought is so directed, when I watch an object approaching from the distance, how can its content be sufficient to enable me to judge only that it is a being or an animal?

Ockham's reply is, basically, that merely thinking of things that are distinct and under the aspect by virtue of which they are distinct does not necessarily enable the thinker to discriminate one from the other.[165] It is essential to Ockham's metaphysics that things are numerically distinct in and of themselves and not by virtue of any individuating principle's combining with a common nature. In particular, numerically distinct things are not made numerically distinct by some difference in properties that could be substituted in a nontrivial

165. Ockham makes these points quite explicitly in commenting on our sensory awareness of things:

> ...I say that the object of one sensation is numerically one. When it is said that 'a power that cognizes the object this way—viz., insofar as it is one by this unity—cognizes it insofar as it is distinct from every other', I say that it cognizes what is distinct from every other and cognizes it under that aspect (*ratio*) through which it is distinct from every other. For that aspect, which is the thing itself, is the immediate term of the act of cognition. Nevertheless, it is not necessary that because of this, it could discern or distinguish it from everything else, since more is required for discrete cognition than for an apprehending cognition. For there is never actually a discrete cognition except with respect to distinct things. Nor is it even sufficient that distinct things are apprehended unless they are dissimilar in themselves or distinct in place or situation...(*Ord.* I, d.2, q.6, (●Th II, 208–209)).

Similar points are made about both sensory and intellectual cognition in *Ordinatio* I, d.3, q.6, (OTh II, 496–99).

version of the Identity of Indiscernibles. Ockham is committed to the claim that it is in principle possible that numerically distinct things should not differ with respect to any such properties. Thus, if things are numerically distinct in and of themselves, one who is aware of those things is aware of that by virtue of which they are distinct. Nevertheless, Ockham insists that "a created power of apprehension can discriminate one thing from another only because of some dissimiliarity..."[166] If *a* and *b* are numerically distinct but not dissimilar, no creature who apprehends them will be able to distinguish between them. Even where *a* and *b* do differ with respect to properties that could be substituted in a nontrivial formulation of Identity of Indiscernibles, Ockham does not think it follows from the fact that one is aware of both *a* and *b* that one is aware that they differ in this respect. For Ockham insists that it is one thing to have all of the essential or intrinsic parts of *a* and *b*, respectively, as the immediate objects of one's thought and another to know all of the properties that can be truly predicated of *a* and *b*, respectively. Creatures are capable of the former. But since infinitely many properties can be truly predicated of each actual or possible thing, only God is capable of the latter.[167]

166. *Ibid.*, d.3, q.6, (OTh II, 498).

167. For example, Ockham writes in *Ordinatio* I, d.3, q.7:

> ...I say that 'comprehension' is taken in many ways. (i) In one way for every cognition, and so understood it means the same as 'apprehension'...(ii) Otherwise, it is taken for the apprehension of whatever is essential to the thing cognized and so is the same as a distinct cognition of a thing when nothing is hidden but everything intrinsic to the thing is clear. (iii) In the third way, it is taken for the clearest and most perfect cognition that there can be of a thing. (iv) In the fourth way, it is taken for the cognition of a thing under everything predicable of the thing. (v) In the fifth way, it is taken for a distinct cognition of a thing and for such perfection in the act of cognition as there is in the object cognized.
>
> God and creatures are comprehended by the intellect in the first and second way. In the third and fourth way, neither God nor creatures can be comprehended by creatures...In the fifth way a creature can be comprehended by a creature, but God cannot (OTh II, 522–23).

The second sort of comprehension does not imply the fourth. Similar points are made in *Reportatio* IV, q.5, (OTh VII, 319).

Sometimes a thinker fails to be aware of dissimilarities between things he has apprehended, because he is aware of only some of their parts and not others, and the parts he is aware of are maximally similar to each other. Ockham distinguishes distinct from confused cognitions as follows:

> ...A distinct cognition of a thing is that by which anything essential to the thing cognized is clear to the power, so that nothing essential or intrinsic is hidden from the power...A confused cognition of the object is that by which something of the object is clear to the power and something of the object is hidden from the power...[168]

And the suggestion is that when I watch an object approaching from a distance, my initial cognitions of it are confused.

Thus, Ockham's view is that when I see an object approaching from the distance, and my cognition is such that I am able to judge only that it is an animal, this is not because the object of my thought is a universal rather than a particular. Rather it is because I have only a confused cognition of the thing, and the particular parts I am aware of are dissimilar to plants but maximally similar to some parts of any animal. Again, when I am able to judge only that it is a man approaching, this is because the particular parts I am aware of are maximally similar to those of other men. It seems more doubtful whether I am—as the example suggests—ever able to judge of the approaching object only that it is a being. For it would seem that the parts that I am aware of by sight are always more similar to physical objects and/or physical phenomena (such as rainbows) than to incorporeal substances. I would thus be able to judge that the approaching being was a physical object or physical phenomenon of some sort.

(iii) Ockham's remarks in the Prologue imply that we can have naturally produced intuitive cognitions of particular corporeal substances. For he says that we have intuitive cognitions of Socrates and his whiteness, and Socrates is a particular substance compounded out of particular matter and a plurality of particular substantial forms.[169] And from what has been said

168. *Ord.* I, d.3, q.5, (OTh II, 471–72).

169. Cf. Part One, chapter 2 above. For a full discussion of Ockham's hylomorphism, see Part Four, chapter 15 below.

so far, one might guess that Ockham thought we could have distinct cognitions of Socrates when he is close at hand, if we can have only confused cognitions of him when he is far away. Ockham's assertions elsewhere contradict both claims, however.

First, Ockham does not allow that we can have distinct cognitions of any corporeal substances in this life for the simple reason that matter is an essential part of any such substance, and we cannot have any intuitive cognitions of matter in this life.[170]

Not only that: we cannot have any confused cognitions of such substances either. For matter and substantial form are their only essential parts. But in *Summulae Physicorum*, where he is discussing corporeal substances that can be generated and corrupted, he insists we do not have any noncomplex cognitions either of matter or of substantial form. Rather the term 'matter' is shorthand for a complex such as 'something is deprived of something and afterwards can stand under it' or 'there is something in reality which is first deprived of form and afterwards does not lack it and that is called matter'; and the term 'substantial form' for 'a thing is apt to inform another'.[171] It follows that we have no intuitive cognitions either of matter or of the substantial form that inheres in it and hence no confused intuitive cognitions of corporeal substances.

Again, Ockham's discussion in *Ordinatio* I, d.3, q.8, implies that we cannot have any naturally produced intuitive cognitions of corporeal substances at all. For he maintains (i) that "it is necessary for an intuitive cognition that the very thing that is in-

170. For example, *Reportatio* IV, q.2:

> In reply to another, I say that just as there is no difficulty in the fact that some natural matter is extended and nevertheless could not be apprehended by any sense or by the intellect in this life, nor be understood by an intuitive cognition and never by a sensory intuitive cognition; so there can be a quality that can be cognized by an intellectual intuitive cognition, although not in this life and nevertheless never could be cognized by any sense (OTh VII, 37–38).

Cf. *Summulae Physicorum* I, c.15, (Rome, 1637, 19); c.20, (Rome, 1637, 25).

171. I, c.20, 25.

tuitively cognized cause the act of understanding, since otherwise that thing could not be intuitively cognized naturally..."[172] This claim was part of the theory originally presented. But in the very next reply Ockham goes on to say (ii) that

> in the present life...nothing can move the intellect to have a cognition of it except mind-independent sensible qualities, or at least what is sensible through itself, and some things within the soul—viz., acts and passions—and perhaps the intellectual soul itself (this would be the case if it were intuitively seen by itself in this life)...[173]

From premisses (i) and (ii), it follows (iii) that in this life we can have a naturally produced intellectual intuitive cognition only of sensible qualities, or what is sensible through itself, and of the acts and passions of our own soul, and perhaps of our own intellectual soul itself. Omitted from the lists are mind-independent corporeal substances. And in *Ordinatio* I, d.3, q.2, Ockham explicitly declares that

> ...no exterior corporeal substance can be cognized by us naturally in itself, whatever is [true] of the intellectual soul or any substance that pertains to the essence of the knower...[174]

This claim is not equivalent to (iii), since it leaves open the possibility not only that we might have an intuitive cognition of our own intellectual soul, but of any substance that pertains to our own essence. Ockham in fact thinks that each particular human being contains three substantial forms—the intellectual soul, the sensory soul, and the form of the body— of which the first is the dominant substantial form that places a man in a species. Nevertheless, he does not think that this conclusion can be adequately proved (see Part Four, chapter 15 below). Accordingly, Ockham may here be leaving open the possibility that we might have intuitive cognitions of other substantial forms that pertain to our own essence – in which case we would be able to have an intuitive cognition of at least one corporeal substance, our own body – or merely acknowledging that for all natural reason

172. (OTh II, 540).
173. (OTh II, 541).
174. (OTh II, 474).

can demonstrate, it is not the intellectual soul but some other substance that pertains to our essence. Either way, his claim is that we cannot have an intuitive cognition of any corporeal substance that is "exterior" to ourselves in the sense of not belonging to us essentially.

Why does Ockham deny that exterior corporeal substances can act on our intellects to produce intuitive cognitions of themselves? Scotus had given a theological argument based on the doctrine of Transubstantiation. According to this doctrine, in the sacrament of Holy Communion or the Eucharist, the host starts out as the substance bread with accidents inhering in it. When the priest says the words of consecration, the substance of the bread disappears and the substance of the body of Christ becomes present. The accidents that formerly inhered in the bread do not come to inhere in the body of Christ, however Rather they do not inhere in anything. Scotus says that if we were able to have intuitive cognitions of substances, this change of substance would be evident to us in our experience—which it is not. Hence, it must be that substances cannot act on our intellects to produce intuitive cognitions.[175] Scotus draws a general conclusion about all substances, but the most experiences during the Mass would support is the conclusion that exterior corporeal substances cannot cause intuitive cognitions of themselves in our intellects. Ockham would have rejected this argument, however, maintaining that there are two possible explanations of our failure to experience the change of substances: the one offered by Scotus—that we are naturally unable to apprehend corporeal substances; and the other—that God intervenes to prevent us from exercising our natural ability to apprehend them on this occasion. In Ockham's opinion, it is the divine will obstructing our natural ability to apprehend sensible accidents that explains our failure to detect Christ's accidents under the consecrated host.[176] Perhaps Ockham merely bases his claim—that we do not naturally have intuitive cognitions of mind-independent corporeal substances—on the results

175. *Ord.* I, d.3, p.1, q.3, n.140, (Vaticana III, 87–88).
176. *Rep.* IV, q.7, (OTh VII, 120); cf. Part One, chapter 6 above.

of introspection.

Replying to the suggestion that "substance is cognized by us in itself and nevertheless not by an intuitive cognition,"[177] Ockham denies it, saying

> ...that no one can naturally have an abstractive cognition of anything in itself unless he previously had an intuitive cognition of the same thing, since otherwise a man blind from birth could thus have an abstractive cognition of colors, just as anyone else can—which is obviously false.[178]

He does allow that we can have connotative and negative concepts of substance in general, such as that of a being that subsists through itself, a being that is not in another, or a being that is the subject of all accidents.[179]

If we cannot naturally have intuitive cognition of substances, how do we come to conceive of substances at all? Ockham's answer is that we do so through accidents. Thus, he writes at *Ordinatio* I, d.8, q.3, that

> ...according to Truth, the differentiae of substances are unknown to us—indeed, they are more unknown to us than accidents, since they do not become known to us except through accidents...[180]

And in *Quodlibeta* III, q.6, he twice remarks to the effect that "...we have no other experience of substance than through accidents."[181] And he adds that since there is no necessary correlation between producing similar or different accidents and being of the same species given that we know substance only through the accident, we have no way of proving with certainty that things differ in substance.

Ockham's assumption that we could acquire the above mentioned connotative and negative concepts of substance in general on the basis of our experience of accident is not

177. *Ord.* I, d.3, q.2, (OTh II, 406).
178. *Ibid.*, (OTh II, 410).
179. *Ibid.*, (OTh II, 416–17).
180. (OTh III, 206).
181. (OTh IX, 227).

surprising. But how we should conceive of or come to know the existence of particular substances or kinds of substances (such as animal or man) through accidents is left unclear. As we have seen in Part One, chapter 8, Ockham thinks that certain qualities are really distinct from substances. Hence there is no logically necessary connection between the existence of, e.g., a color quality and the existence of something in which it inheres. And Ockham explicitly denies that there is any necessary connection between accidents of a certain kind and substances of a certain kind. Further, if in this life we cannot naturally have any intuitive cognitions of particular corporeal substances, we will never be able to observe any constant conjunction between the existence of accidents and the existence of substances, on which to base an inference of the latter from the former. Ockham admits that we have no way of telling with certainty whether substances of the same or of different kinds are associated with various collections of accidents. But it seems that he should have added that we have no way of knowing with certainty whether or not any substance is associated with a given collection of accidents.

In his article "Ockham on Evidence, Necessity, and Intuition," T. K. Scott tries to show that Ockham is not really saddled with this conclusion.[182] He admits that

> ...if Ockham had held that only accidents are seen, he would indeed have left himself an insuperable problem, since his repeatedly stated view is that knowledge of one thing never yields knowledge of another, unless the latter is already known as associated with the former (see, e.g., *Sentences*, Prologue, q.9 F...)...[183]

But Scott appeals to Ockham's remark in *Quodlibeta* I, q.13, that

> ...I record concerning Socrates that I saw him so formed and so colored, of such a height, of such a breadth, and in such a place. And through that composite I record that I have seen Socrates...[184]

182. *Journal of the History of Philosophy*, VII (1969): 27–49.
183. 33, note 22.
184. (OTh IX, 77).

as evidence that

> Ockham holds no such position...What is seen is Socrates shaped, not Socrates' shape. What is intuited is a substance as subject of an accident, not merely an accident (see *Sentences,* Prologue, q.1 X; (*Quodlibeta* I, q.8; *Quodlibeta* VII, q.7, for just a few examples). Furthermore, as the quotation above again illustrates, it could not be the case that only accidents are seen, since shape, length, breadth, and location are not 'real' accidents at all, but are only ways of conceiving a substance and its parts (see e.g., *Summa logicae* I, c.47 & 61).[185]

And he asserts that at least where typical, non-miraculous cases are concerned, Ockham would without doubt agree with Buridan's account in his *Questions on the Eight Books of Physics* I, q.4, where he says that

> I first have a concept that confusedly and simultaneously represents substance and accident, as when I perceive a white thing (*album*). I do not see the whiteness alone, but the white thing.[186]

Unfortunately, not all of the passages Scott cites bear on the issue at hand. For instance, *Quodlibeta* I, q.8 deals exclusively with the cognitions of angels, whereas the present concern is with what human beings can naturally apprehend in this life. Again, *Quodlibeta* VII, q. 7 (now VIII, q. 2, (OTh IX, 706–708)) contains Ockham's views about which qualities are really distinct from substances and says nothing about our cognitions of them. The remaining two do suggest that we can have intuitive cognitions of substances as well as accidents. *Ordinatio*, Prologue, q.1 X is a familiar passage in which Ockham speaks of our having intuitive cognition of Socrates and his whiteness. And the wording of the above quoted passage from the *Quodlibeta* I, q.13 does lend support to Scott's interpretation and is suggestive of the line Buridan appears to take. Even so, the unqualified assertion—that Ockham thought we have

185. 33–34, note 22.

186. Translated from Scott's quotation of the Paris, 1509 edition on 34, note 22.

naturally produced intuitive cognitions of mind-independent corporeal substances—would not thereby be warranted. For there are the passages in *Ordinatio* I, d.3, q.2 and q.8, as well as those in *Summulae Physicorum*, which imply the opposite. And in any event two problems remain with Scott's handling of the *Quodlibeta* I, q.13 passage and with his confidence that Ockham is anticipating Buridan. (a) First, Scott is mistaken when he infers that substances must be seen because shape, length, breadth, and location are seen and are not real accidents. As we have seen in Part One, chapter 6, Ockham contends that the latter accidents are not things (*res*) really distinct from substances *and qualities*. And he thinks that whiteness and other sensible qualities that are really distinct from substances have shape, length, breadth, and location *of themselves*.[187] Thus, he could hold that what one sees is not Socrates so shaped, so located, etc. but Socrates' whiteness so shaped, so located, etc.—although this is not the literal interpretation of *Quodlibeta* I, q.13. (b) Second, some clarification is needed of Buridan's suggestion that we first have a concept which confusedly represents the substance and accident simultaneously. Ockham distinguishes two senses in which something can be cognized confusedly. According to the first and proper sense, an object is cognized confusedly "when something is cognized and not everything whatever intrinsic to it is clear to the power..." According to the second and improper sense, a thing is conceived confusedly by means of a general concept that is common to it and to others—e.g., Socrates and Plato are confusedly conceived of by means of the abstract general concept 'man'.[188] The wording of Buridan's statement suggests that he may have something more like the latter in mind. On Ockham's view, the suggestion would be that just as my concept 'man' is equally similar to Socrates and Plato, so the concept I first get of corporeal things is equally similar to whiteness and the substance. If we add that the latter concept

187. E.g., *Rep.* IV, q.4, (OTh VII, 77); cf. Part One, chapter 6, section 2 above

188. *Ord.* I, d.3, q.5, (OTh II, 472).

has both the substance and the whiteness as partial efficient causes, it follows that it is equally of both of them. In the first sense, we have a confused cognition of a whole when we cognize some of its intrinsic or essential parts and not others. It follows, on Ockham's definition, that we have a confused cognition of a whole only if we have a distinct cognition of one or more of its intrinsic or essential parts. Thus, to have a confused intuitive cognition of substance in this sense, we should have to have a distinct intuitive cognition of matter or of substantial form—both of which Ockham elsewhere denies.

So far as I know, Ockham nowhere abandons his claim that we can have intuitive cognitions of mind-independent sensible qualities such as whiteness. And it is presumably such particular sensible qualities that Ockham has in mind when he says that we sometimes do have distinct intuitive cognitions of sensible particulars.[189]

## 9. CONCEPTUAL EMPIRICISM AND DIRECT REALISM

It is clear from the above discussion how, for Ockham, intuitive cognition is the starting point of our mental activity in this life. According to the natural order of causes, human mental activity begins with sensory intuitive cognitions of particular physical objects. Ockham's discussion in the Prologue would suggest that these include physical substances as well as qualities, but elsewhere he implies that in this life we have no intuitive cognitions of corporeal substances—at least of none other than our own bodies. Such acts of the sensory soul, together with the existing and present object, naturally suffice to cause an intellectual intuitive cognition of the same object under the same aspect. Given one or more intellectual intuitive cognitions of such things, the intellect compounds them by means of the copula or the copula with a negation sign, thus producing a complex act of apprehending a contingent proposi-

189. *Ibid.*, (OTh II, 476); cf. q.6, (OTh II, 497–98).

tion. Once the proposition is formed from such intuitive cognitions, the intellect immediately assents if the proposition is true and dissents if the proposition is false. Such intuitive cognitions of particular physical objects are likewise presupposed for volitions having particular physical objects as their intentional objects.

Given that there are some mental acts that have particular physical objects as their intentional objects, Ockham thinks that we can and do have intellectual intuitive cognitions of mental acts. Sometimes he says that an existing and present intuitive cognition of a particular physical object suffices, together with the intellect, to produce an intuitive cognition of that intuitive cognition. Other times, he says that a volition is required in addition. Either way, according to the natural order of causes, the second intuitive cognition does not suffice, together with the intellect, to cause an intuitive cognition of itself. Such intellectual intuitive cognitions of mental acts are naturally apt to cause evident judgments with respect to contingent propositions about them.

Ockham claims that sensory and intellectual intuitive cognitions of particulars are, according to the natural order of causes, necessary for the production of abstractive cognitions. Intellectual intuitive cognitions are also at least mediate and partial causes of abstract general concepts. In the Prologue and *Reportatio* II, q.12–13, Ockham claims that we cannot have a naturally produced abstractive cognition of something without having an intuitive cognition of the same thing and probably intends it to apply only to simple intuitive and abstractive cognition. And even in *Quodlibeta* I, q.13, where he denies that any simple abstractive cognition is proper to a particular, he would still retain the claim that we cannot have a simple abstractive cognition of whiteness unless we have had an intuitive cognition of some particular whiteness or other. That we have never had a simple intuitive cognition of something does not, in Ockham's view, mean that we cannot conceive of it at all. Ockham suggests that we can conceive of particulars by means of composite abstractive cognitions. Again, we think of God, of whom we never have an intuitive cognition in this life, by means of a com-

posite abstract general concept (see Part Five, chapter 21 below) and of matter by means of a complex act of apprehending a proposition (see Part Four, chapter 15 below). Intellectual intuitive cognitions are also at least mediate and partial causes of abstract general concepts.

Thus, all naturally acquired noncomplex cognitions that are not themselves intuitive cognitions have intuitive cognitions at least as a mediate and partial cause. All complex acts of apprehension are either propositions formed from intuitive cognitions, propositions formed at least in part from abstractive cognitions, or propositions formed at least in part from abstract general concepts. The first group obviously involve intuitive cognitions as partial causes. Therefore, on Ockham's view, it is not naturally possible that we should be aware of anything without having intuitive cognitions. And without acts of apprehension, no acts of judgment or volitions are possible. In this life all our mental activity depends upon intuitive cognitions.

Although Ockham shares Locke's conceptual empiricism, he would reject—at least so far as present qualitative states of the physical world are concerned—Locke's claims that (i) we are aware of physical objects indirectly, by being aware of something mental; and (ii) that all of knowledge of the physical world is inferred from propositions about our own mental acts and passions. If Ockham had agreed with these claims, he would have given the following account of how we come to know a proposition such as 'Socrates is white': first, Socrates and his whiteness cause us to have sensory intuitive cognitions of Socrates and his whiteness, which in turn causes an intellectual intuitive cognition of Socrates and his whiteness; and the latter intuitive cognition causes an intuitive cognition of itself. The intellect then judges that the intellectual intuitive cognition of Socrates and his whiteness exists and infers that probably Socrates exists and is white. It is clear from the above summary, however, that Ockham does not endorse such a representationalist position. He, of course, allows that sensory cognitions often cause intellectual intuitive cognitions of themselves. But he is adamant that the intellect's awareness of acts of sensation or of its own acts is not the only or the primary means by which

the intellect is aware of physical objects, and that such an awareness does not invariably play any causal role in producing the judgment that Socrates is white. Rather the sensory intuitive cognition of Socrates and his whiteness cause an intellectual intuitive cognition of the same; and the latter act, which is the immediate proximate cause of the judgment that Socrates is white, is one in which the intellect is aware of Socrates and his whiteness, not indirectly, but directly. Thus, he says that in intuitive cognition "the thing itself is seen and apprehended immediately, without any intermediary between it and the act,"[190] and again that "in intuitive cognition nothing other than the object and the act is required to represent the object..."[191] Thus, in these passages, Ockham clearly intends to endorse a direct realist position in the theory of knowledge.

Further, although Ockham would not deny that some of our beliefs about contingent states of affairs in the physical world are inferred from other beliefs, he insists that not all of our beliefs about such contingent states of affairs are of this sort. Since we cannot know infinitely many propositions, if we know any contingent propositions, we must know some contingent proposition non-inferentially.[192] And although Ockham does at one point (where he is discussing passages from Augustine) say that our knowledge of our own mental acts is the most evident that we have,[193] he never suggests that all of our beliefs about present states of affairs in the physical world must be inferred from them. His considered opinion is that intuitive cognitions of physical objects cause evident judgments, just as much as intuitive cognitions of mental acts do. So far as Ockham's theory of memory in *Reportatio* II, q.12–13 is concerned, the same is true of our memories of past states of affairs in the physical world. But in *Reportatio* IV, q.14, he takes a step in the Lockean direction, contending that our memories of such past states of affairs invariably "follow from" our memories of our own past mental acts.

190. *Ord.* I, d.26, q.3, (OTh IV, 241).
191. *Rep.* II, q.12–13, (OTh V, 273–74).
192. *Ord.* I, Prologue, q.1, a.1, (OTh I, 43).
193. *Ibid.*, (OTh I, 43–44).

# 14

# Certainty and Scepticism in Ockham's Epistemology

The question of whether certain and infallible knowledge is possible for human beings is one of the perennial questions of epistemology. And repeatedly, the debate about its answer has been seen to depend on what standards of certainity have been adopted. Some philosophers have maintained that a belief that *p* is true counts as knowledge of *p*, only if (i) *p* is true and (ii) the believer has some infallible sign by means of which he can distinguish, among instances of belief that *p* is true, genuine from merely apparent cases of true belief. And they have argued that while—for all we know—some of our beliefs may satisfy condition (i), it is impossible that any of our beliefs should satisfy condition (ii). These philosophers are known as sceptics, because they conclude that certain and infallible knowledge is impossible for human beings.

Historically, the sceptics' contentions have met with a threefold response: (1) The most ambitious of their opponents accept the sceptics' standards for certain and infallible knowledge and argue that these standards are sometimes met. (2) Others report that no rational person should accept the sceptics' demand for an infallible sign by means of which to distinguish genuine from merely apparent instances of true belief. And they substitute "lower" alternative standards for certain knowledge. These philosophers reply, in effect, by changing the subject. For sceptics have not claimed that it is impossible for us to have certain knowledge as measured by these "lower" standards, and often have allowed that—for all we know—we do have it. (3) Still other philosophers, of stronger constitution, have accepted the sceptics' standards and granted their conclusions.

In the present chapter, I want to consider this drama as it is played out on the stage of late 13th and early 14th century epistemology. Since the whole play would constitute a book in itself, I shall turn the spotlight on Henry of Ghent, Duns Scotus, William Ockham, and Nicolas of Autrecourt. Many reviews in the secondary literature bill Ockham as the chief of the medieval sceptics. But, constrasting Ockham with these other characters, I shall argue that it is wrong to cast him in that role.

## 1. THE PROBLEM AS POSED BY HENRY OF GHENT

Although Henry's *Summae quaestionum ordinariarum* is primarily a theological work, it begins with the question of whether knowledge or certain cognition of anything is possible,[1] and if so, to what extent it is possible for human beings by their purely natural powers. On the one hand, Henry cites arguments that it must be possible: (i) For example, Aristotelians maintain that knowledge is the natural activity and end of man and accordingly that for which each human being has a natural desire. But everything must be able to attain its end by purely natural powers, and it is impossible that any natural desire should be frustrated.[2] (ii) Again, Augustine contends that one who doubts whether he knows, knows at least one thing—that he doubts.[3] On the other hand, Henry presents a rich collection of arguments from ancient and Augustinian sources, that knowledge is altogether impossible for human beings. (iii) Among these, there is the argument of the Academics that knowledge is impossible, because there are no infallible signs by means of which to discriminate the true from the false.[4] (iv) Another group maintains that knowledge is impossible for human beings, because all human perception begins with the senses, and the senses cannot be a source of certain cognition.

1. A.1, q.1; a.2, q.1.
2. A.1, q.1, (Paris, 1520, fol.1va); a.1, q.2, fol.4r A.
3. A.1, q.1, fol.1v.
4. A.1, q.1, fol.2r C; a.2, q.1, fol.23v A.

For one thing, knowledge of the unadulterated truth—i.e., a clear, stable, infallible grasp of the truth—is not to be expected from the senses.[5] Again, the senses perceive at most the sensible qualities of things, not their essences.[6] Worse still, sensible things appeared differently to the same perceiver at different times and circumstances or to different perceivers at the same time.[7] Hence, the intellect forced to rely on the senses would not even acquire certainty about the sensible qualities of things. (v) Still another group finds knowledge impossible for human beings, not because of defects in our faculties of cognition, but because mind-independent sensible things are unknowable. Some held that such things have no determinate properties.[8] Others asserted that only what is immutable is knowable, but sensible things change.[9]

Henry's defense of the possibility of human knowledge concedes something to many of these arguments. As if sensing that disagreements in this matter can often be traced back to varying standards of certainty, Henry identifies four certainty-making features of cognitions: (a) freedom from doubt and error; (b) stability of the known object and knowing subject; (c) infallibility; and (d) clarity. He then distinguishes four ways in which knowledge may be taken, the degrees of certainty corresponding to each, and how it is possible for human beings.

## 2. KNOWLEDGE IN THE BROAD SENSE

Henry's first main distinction is between knowledge in the broad sense which includes "every certain cognition by which a thing is cognized as it is, apart from every fallacy and deception"[10] from knowledge properly speaking by which the conformity of a thing with its exemplar is recognized.[11] From this description and a comment he makes in the next article.[12]

5. A.1, q.1, fol.1r A.
6. A.1, q.1, fol.1v A.
7. A.1, q.1, fol.1r A.
8. A.1, q.1, fol.2r–v C.
9. A.1, q.1, fol.1r–v A.
10. A.1, q.1, fol.1v B.
11. A.1, q.2, fol.4v C, D.
12. A.2, q.1, fol.23v B.

it would seem that every error-free cognition counted as knowledge in the broad sense. But other remarks and examples suggest that only error-free cognitions that we do not, cannot, or should not doubt are included,[13] and indeed only cognitions that have certainty-making feature (a) and not (b), (c), and (d). A further restriction still is implied by the fact that Henry regards the above division between knowledge in the broad sense and knowledge properly speaking as exclusive.

Henry thinks that knowledge in the broad sense is clearly possible for human beings in this life by their purely natural powers, and he gives two sorts of cases in which we in fact have it: (a) The first is "by exterior or alien testimony"—i.e., by taking someone else's word for it. Following Augustine's lead in *Contra Academicos*, Henry stresses the importance of such knowledge. Without it, he says, we should be ignorant of the ocean and of many celebrated lands and cities, which we have never seen for ourselves. We also depend upon the testimony of others for our knowledge of the past—e.g., that human beings existed in the past.[14] (2) The second is the testimony of our own senses and intellect. Henry insists that both we and the lower animals[15] sometimes perceive things as they are apart from any fallacy or deception, by means of our senses. In defending this, Henry seems to concede the Aristotelian claim that all natural things have a proper activity in which they engage unless they are prevented from doing so by something else. He argues that

> ...it is proper to a sense to have a very certain cognition of its proper object, unless it is prevented from doing so either by itself or by the medium or by something else. And when every impediment ceases, it cannot err or apprehend its proper object otherwise than as it is, although such an apprehension does not remain, whether because of the thing or because of the mutability of the sense...[16]

But, of course, we may doubt error-free sensory cognitions, if,

13. A.1, q.1, fol.1v B; a.2, q.1, fol.23v B.
14. A.1, q.1, fol.1v B.
15. A.1, q.2, fol.4v C.
16. A.1, q.1, ad 2, fol.2v F.

for example, we doubt whether or not the sense faculty is impeded in its natural operation. Henry offers the following criterion of the reliability of the senses:

> ...In sensory cognition, that sense truly perceives a thing as it is apart from any deception and fallacy, which is not contradicted in its proper action of sensing its proper object by a truer sensation or by an act of understanding taken from a truer sensation, whether in the same one or in another...[17]

When a given deliverance of my sense of sight is not contradicted by other truer deliverances of the sense of sight or of some other sense (whether in me or someone else) or by an act of understanding based on other truer deliverances of the senses, then I am to take it that my sense of sight represents things to be as they are on this occasion. "Nor," Henry adds, "should it be doubted that what we perceive in this way we perceive to be as it is. Nor is it necessary to seek any further cause of certainty."[18]

The latter criterion would, in at least some cases, be easy to apply: viz., in those cases in which the deliverance of a given sense is not contradicted at all, either by other sensations or by intellectual cognitions. As one of the arguments against the possibility of knowledge points out, however, the deliverances of one's senses very often contradict each other and/or those of another person's senses. And even where this is not actually so, it is potentially so. Hence, if we are to make much use of Henry's criterion, we must be able to determine when the deliverances of one sense are *truer* than those of another. Arguments against the possibility of human knowledge assume that where the senses contradict one another, the senses themselves provide us with no criterion for choosing among them.

Henry's view is that in such cases, the truer sensation is the one that is produced in a faculty whose operation is unimpeded in relation to the other faculties. And it is the job of the intellect to judge on the basis of repeated past experience, what those

17. A.1, q.1, fol.1v B. 18. *Ibid.*

circumstances are in which a faculty of sensation is apt to be impeded.[19] For example, he thinks that experience shows that the taste of a healthy person ought to be trusted more than the taste of a sick person, and the vision of someone who looks at this from nearby more than the vision of someone who looks at it from a distance, of one who looks through a uniform medium more than of one who looks through a medium that is not uniform, etc.[20] Henry is probably correct in thinking that we ordinarily do appeal to such criteria and doubt or trust our senses accordingly, but he is wrong to suggest, as he does at one point, that these are the infallible signs demanded by the Academic sceptics in their arguments that knowledge is impossible.[21]

In the same way, we may have knowledge in the broad sense by intellectual cognition. Thus, Henry writes,

> ...that intellect truly perceives a thing as it is without any fallacy or deception, which is not contradicted in its proper act of understanding by a truer act of intellect or by one taken from a truer sense. Nor should such an act of understanding be doubted any more than one from the senses should...[22]

Among such intellectual cognitions, Henry includes what Ockham calls acts of apprehension and what Henry himself labels acts of simple intelligence (simple by contrast with acts that involve compounding and dividing). Where such intellectual acts of apprehension are concerned, Henry says that intellect "follows sense," in that we do not have an intellectual cognition of a given thing unless we first have a sensory cognition of it.[23] But intellectual knowledge in the broad sense also includes knowledge of some propositions. All of the knowledge that we get "by exterior or alien testimony" seems to be of this sort. And in discussing intellectual knowledge in the broad sense, Henry notes with apparent approval Cicero's comment that the sense cannot apprehend propositions such as 'This is white'; rather it is left to the intellect to do so.

19. A.1, q.1, ad 3, fol.3r G.
20. A.1, q.1, ad 2, fol.3r F.
21. A.1, q.1, ad 3, fol.3r G.
22. A.1, q.1, fol.2r B.
23. A.1, q.2, fol.4v C.

In maintaining that human beings can have knowledge in the broad sense of sensible things, Henry is disagreeing with all of those ancient philosophers who argued that sensible things have no determinate properties. If there is no determinate way that sensible things are, one cannot be said to apprehend them as they *are* apart from any fallacy or deception. On the other hand, he is not asserting anything that the Academic sceptics could have conscientiously denied. Arguing, as they do, that all things are uncertain, they do not deny that there is some determinate way that sensible things are, nor that we sometimes apprehend them as they are. What they argue is that if we ever do apprehend the determinate properties of sensible things as they are, we are in no position to identify such occasions with certainty, by their standards of certainty which include not only feature (a) but also feature (c). Nor would they be impressed with Henry's criteria for doing so. For in determining whether we have knowledge in the broad sense, Henry advises us to presume that the deliverances of a given faculty are reliable unless they are shown to be contradicted by a truer one. And it may be that by following his advice we should arrive at a cognition that is free from doubt and error, that a given sensation or act of intellect is reliable. But if we are after Academic certainty that we have knowledge in the broad sense, we cannot rely on such presumptions but only on some infallible sign. Similarly, applying Henry's maxim that the taste faculty of a healthy person is more reliable than that of a sick person, we may often arrive at knowledge in the broad sense that a given taste sensation is reliable. But we could thereby acquire Academic certainty that this is so only if on numerous occasions we had certified, by some infallible sign, that a given person is sick and that another is well and then determined by an infallible sign which person had the veridicial and which the erroneous taste sensations. And this we could do only if we had already identified, by some infallible signs, some cases in which our intellect and senses perceived things as they were. In general, to identify any cognition as veridical, we should have identified with certainty that another is verdical, and so on to infinity. Medieval philosophers generally agreed, however, that our minds are not

capable of carrying out an infinite number of operations.

## 3. KNOWLEDGE PROPERLY SPEAKING

According to Henry, knowledge properly speaking is cognition "by which the truth of a thing is cognized."[24] He explains that it is one thing to cognize a thing or "that which is true in it" and another to cognize its truth.[25] Henry has in mind the transcendental sense of 'true' according to which every being is true. Thus, any error-free cognition of a thing will count as a cognition of that which is true in it. But the truth of a thing consists of its conformity with an exemplar.[26] Therefore, knowledge properly speaking involves grasping not only the thing itself, but also its relation to something else—which can not be done by a simple act of apprehension, but only by the intellectual activity of compounding and dividing.[27] Sometimes he says that the latter activity results in a judgment—e.g., the judgment concerning a man that he is a true man, concerning a color that it is a true color.[28] Other times he says that it results in a concept of the thing.[29] Still other times, in a word.[30] Further, Henry explains that there is a double truth of things, inasmuch as each thing has a double exemplar: (i) its created exemplar which is a species produced on the basis of sensations; and (ii) the uncreated exemplar which is the idea of it in the mind of God.[31] And there are two ways in which either of these exemplars might figure in our coming to know things: either the exemplar might serve as an object of knowledge or it might play some causal role (be a *ratio cognoscendi*) in our coming to apprehend the truth of things. And depending on which exemplar

24. A.1, q.2, fol.4v C.
25. *Ibid.*
26. A.1, q.2, fol.4v D.
27. A.1, q.2, fol.4v C, D.
28. *Ibid.*
29. A.1, q.2, fol.5r E, fol.7r–v L, and fol.8r S.
30. A.1, q.3, fol.10r G.
31. A.1, q.2, fol.5r E.

is involved and how that exemplar functions, different degrees of certainty will attach to our knowledge—properly speaking.

## 4. KNOWLEDGE OF THE TRUTH OF THINGS BASED ON A CREATED EXEMPLAR

Henry thinks that unaided natural human powers suffice to provide human beings with knowledge properly speaking, based on a created exemplar. And in this process, the created exemplar serves, not as the object, but as a cause of such knowledge. His account of just how this happens is obscured by his failure to make clear just what sort of species the created exemplar is, however. Sometimes, he suggests that the created exemplar is an image of the sort we are aware of in dreams and imagination and which we mistake for real sensible things—i.e., a particular, determinate sense image.[32] His more considered

32. A.1, q.2, fol.5r–v E. In criticizing the argument in which this statement occurs, Scotus implies that Henry rejects the idea that we know things by means of intelligible species and that he has to explain how we know things by means of sense images alone (*Ord.* I, d.3, p.1, q.4, n.252, (Vaticana III, 153)). This is puzzling because Henry speaks of our having intelligible species later on in *Summae*, a.1, q.2. Wolter refers us to Henry's *Quodlibeta* IV, q.7, 8 and 23; V, q.4 (*Duns Scotus: Philosophical Writings*, (Edinburgh, 1962), notes to sec. 5, 183). In *Quodlibeta* IV, q.7, however, Henry is primarily concerned with our knowledge of God in the next life. He attacks a theory according to which the only way we have of ever knowing anything – whether in this life or the next – is by means of intelligible species. He argues that an intellect can know something either by means of intelligible species or through the thing's essence itself. He admits that in this life we know physical objects by means of intelligible species which they cause in us (Venice, 1613, fol. 148va). But it is an imperfection in an intellect to be able to understand only by means of intelligible species (fol. 150ra). And Henry insists that in the next life the Blessed will know God not by means of His causing an intelligible species in them, but through the presence of the divine essence itself (fol. 149ra-b).

I have not found Henry categorically rejecting intelligible species in the other questions cited by Wolter either. In setting out Henry's position, however, I have concentrated on his account in the *Summae quaestionum ordinariarum*. There may be a place in some other work in which Henry contradicts this account and rejects intelligible species altogether.

view seems to be that the created exemplar is "a *universal* species existing in the mind through which the mind acquires a cognition of all of its supposita"[33] or that it is "a species abstracted from the thing through sense," "purified and made universal."[34] Some of Henry's discussion suggests an account along Aristotelian lines: when we have sensations of particular animals, their images are stored in memory. Repeated experiences of different kinds of animals results in the production of a phantasm from which we abstract a universal species (the created exemplar). We then form a universal concept of animal that is conformed to that exemplar, and on the basis of this concept judge concerning anything we run across whether or not it is an animal.[35] Presumably when we thus judge of Socrates that he is an animal, we grasp the truth of Socrates, in that we perceive his conformity to the created exemplar.

Henry realizes that those who deny the possibility of human knowledge will raise an objection at this point:

> ...But perhaps you will say that the sensible species is received from sense. Therefore, since it is an accident and a likeness of accidents only, it will not lead to a cognition of what the thing is, or to a cognition of its substance...[36]

Sense images represent only the sensible qualities of a thing. It would seem, therefore, that the species abstracted from the phantasm they produce and the concept conformed to that species could be of sensible qualities only, which are accidental and do not pertain to the essence of the things that have them. How even on the basis of universal and abstract species of sensible qualities, could we arrive at a concept of man as a rational mortal animal? Henry's reply seems to concede that the species we have been speaking of so far are of sensible qualities only.

> ...It must be replied to this that even if the intellect first receives in-

33. *Summa quaestionum ordinariarum*, a. 1, q. 2, fol. 5v E.
34. A. 1, q. 2, fol. 5v E, F.
35. A. 1, q. 2, fol. 5r–v E.
36. A. 1, q. 1, ad 7, fol. 3v L.

> telligible species of sensible things and of corporeal things insofar as they are sensible and first understands those things through those species, nevertheless, secondarily, under those species of sensible things and by the investigation of natural reason it conceives through itself the cognitions of things that are not sensible, such as the quiddities of substance and other things of the same sort that do not have their own species in the intellect...[37]

Henry explains how the mind conceives things that are not sensible *through itself* by comparing it to the way in which

> ...a sheep, by natural instinct, appraises things not sensed through species that are sensed, e.g., by imagining or seeing through the sensible species of a wolf, it appraises the wolf to be harmful and unfriendly...[38]

Harmfulness and unfriendliness are not sensible qualities and therefore are not represented in sensible species. The gray coat, pointed-shaped teeth, and large jaws can be represented by sensible species, however. Henry seems to be saying that the soul of a sheep is by nature so constructed that when a sensible species of a wolf occurs in it, this triggers ("by natural instinct") in it the thought that the wolf is harmful or unfriendly. In the same way, Henry is suggesting, the human mind is by nature so constructed that the occurrence in us of the created exemplar of man (which represents, although abstractly, only the sensible qualities of men) and perhaps the resultant universal concept of the sensible qualities of man, causes the mind "by the investigation of natural reason" to form a concept of the substance or quiddity of man. Henry does not explain here what sort of investigation natural reason has to engage in to form this concept (his attributing it to natural reason implies that it does not involve any special divine illumination). Nor does he clarify in what sense (if any) this concept of the quiddity (as opposed to the first mentioned one of the sensible qualities) conforms to the created exemplar. It is perhaps more likely that he thinks it conforms vaguely and imperfectly to the uncreated exemplar, which does represent the substance or quiddity of things.

37. *Ibid.*

38. *Ibid.*

At first, Henry suggests that we use the latter, naturally acquired concepts, not only in forming judgments such as 'Socrates is a man' or 'This is triangular', but also in formulating and coming to have certain knowledge of simple analytic propositions such as 'Human beings are animals' and 'Animals are substances', which are the first principles of the speculative sciences. For he says that we can cognize such simple analytic propositions accurately and in such a way that we could not doubt them "by the precise action *of the natural powers* of the soul by looking to the created exemplar abstracted from the thing" (italics mine). But he immediately adds "if nevertheless that exemplar suffices for this apart from the illumination of the eternal exemplar.[39]

## 5. HOW CERTAIN IS KNOWLEDGE PROPERLY SPEAKING BASED ON THE CREATED EXEMPLAR?

According to Henry, knowledge of the truth of things based on the created exemplar possesses the certainty of freedom from error and actual doubt. Yet this is not to contradict the objector who denies unaided human powers of any "knowledge of the unadulterated truth"[40]—i.e., any stable, infallible, and clear vision of the truth of things. For Henry himself insists that knowledge properly speaking based on the created exemplar does not possess these certainty-making features. And Scotus points out that Henry's arguments have even readier application to sensory apprehension of things as they are, which Henry classifies as knowledge in the broad sense.

Henry's first two arguments contend that such knowledge falls short of the higher degree of certainty, because the created exemplar is mutable. (1) "The first reason is that such an exemplar, since it is abstracted from a mutable thing, necessarily has some principle of mutability in itself..."[41] The suggestion is

39. A.2, q.1, fol.23v B.
40. A.1, q.2, fol.5v E; cf. a.2, q.1, fol.23v B.
41. A.1, q.2, fol.5v E.

that a mutable thing cannot be the cause of an immutable effect. But sensible things are mutable. Hence the images and species of which they are, directly or indirectly, the cause must also be mutable. The same would obviously be true of sensory apprehensions. (2) Secondly, Henry contends that

> ...the human soul, because it is mutable and capable of being affected by error, cannot be set right in such a way that it avoids error and persists in the rightness of truth, by anything that is as mutable as or more mutable than it is. Thus, every exemplar that it receives from natural things, since that exemplar is of a degree inferior to it, is necessarily as mutable or more mutable than it is. Therefore, such an exemplar cannot set the soul right in such a way that it persists in the infallible truth...[42]

The suggestion seems to be that even if an image or a species provided us with an accurate cognition of things as they are or of their truth, it would not provide us with a stable grasp of them. For, as mutable, such an image or species is apt to go out of existence at any time and to be replaced by another that might perhaps misrepresent things. Again, even if an image represents sensible things as they are at a given time, the sensible things themselves may change at any time and hence come to be no longer accurately represented by the image.

Scotus, examining Henry's discussion, raises a double objection to this reasoning. First, Scotus singles this out as one of the places in which Henry fails to distinguish the characteristics of sense images from those of intelligible species and knowledge derived from intelligible species. Scotus considers that physical objects have both a mutable and an immutable aspect. It is by virtue of their mutable aspect—viz., their sensible qualities—that we are caused to have sense images of them. And it is quite true that a change in the sensible qualities of a physical object might render a veridical sense image non-verdical. But, on Scotus's view, it is by virtue of their immutable aspect—viz., their nature—that we have intelligible species. Even if the sensible qualities of physical objects change, and even if particulars

42. *Ibid.*

come into being and pass away, what it is to be a man, what it is to be a horse, or what it is to be an animal, does not change. Neither do the relations among natures vary from one time to another. Consequently, the ability of an intelligible species to represent a nature accurately is unaffected by the above mentioned changes in physical objects.[43]

Secondly, so far as the other source of instability is concerned, Scotus would grant that intelligible species are just as liable to cease to exist in the mind as sense images are. But he observes that

> ...if the mutability of the exemplar in our soul makes certitude impossible, then since anything that exists in the soul as in a subject is mutable—even the act of understanding itself—it follows that the soul cannot be prevented from erring by anything...[44]

whether it is produced in the soul by the natural activity of a creature or by special divine illumination. Once Henry regards the fact that the existence of accidents in a mutable substance is unstable, as a barrier to certain knowledge in the highest degree, he will be forced to conclude that such knowledge is entirely beyond human reach—which is the conclusion of the sceptics.[45]

Henry can reply here by granting that divine action cannot alter the fact that an effect produced in the soul has the ontological status of being an accident inhering in a mutable substance. But he can maintain that it is only as a result of the natural order of causes that the existence of such accidents in the soul is less stable than the existence of the soul itself. Hence, the latter fact can be altered by divine intervention: if God wills an accident to have uninterrupted existence in the soul, that accident will so persist. Nevertheless, Scotus's objection calls to our attention at least one thing divine illumination must do, if it is to remove the defect of instability from our knowledge.

(3) Henry's third argument concedes some legitimacy to the

43. *Ord.* I, d.3, p.1, q.4, a.2, n.246, (Vaticana III, 150–51).
44. *Ibid.*, n.220, (Vaticana III, 134).
45. *Ibid.*, n.222, (Vaticana III, 134–35).

demand of the later Academics for an infallible criterion of truth and argues that the created exemplar does not provide such a criterion:

> ...This sort of exemplar, since it is an intention and species of a sensible thing abstracted from the phantasm, bears a likeness to the false as well as to the true, so that they cannot be distinguished by considering the exemplar. For through the same images, in dreams and madness we judge the images to be the things themselves, and when we are awake and sane we make judgments about the things themselves. Therefore, it is impossible to have certain knowledge and a certain cognition of the truth through such an exemplar...[46]

Henry here concedes the Academics' point that exactly similar images may occur in dreams and madness as in healthful waking life, in non-verdical as in veridical perception. By the Academics' criterion, it would follow that we cannot have certain knowledge of the existence and sensible properties of physical objects by means of such sense images alone.

Responding to Henry's reasoning, Scotus once again seems to grant that it has validity where sense images are concerned. He does not object to the ancient theory according to which in dreams, madness, or hallucination, what happens is that we mistake the sense images for the physical objects themselves. And he admits that if we had to rely on sense images alone for acquiring knowledge, the Academics would be right in drawing their negative conclusion about the possibility of certain knowledge. Nevertheless, what is true of sense images is not true of intelligible species. For no one would want to say that we mistake the intelligibile species, which are abstracted from phantasms, for the physical objects themselves.[47]

If one is willing to give a generous interpretation, however, one can regard Henry as drawing a different point from the Academics' observation. He may be suggesting that since exactly similar sense images may occur in dreams and madness as in sane wakefulness, the phantasm and the species abstracted from

46. A.1, q.2, fol.5v E.
47. *Ord.* I, d.3, p.1, q.4, n.251, (Vaticana III, 153).

it will be as much like the non-veridical as like the veridical images, and hence will be no more a sign of the true than of the false. From this, he may be concluding that certain knowledge of the truth cannot be had on the basis of such a species either.

To evaluate this reasoning, we need to reconsider Henry's account of how we base knowledge on the created exemplar. He has claimed that on the basis of such a species we form a universal concept of the sensible qualities of things and that the existence of the species together with this latter concept may cause the mind to form a universal concept of their quiddities. Either of these may be used in formulating judgments about particulars of which we have sense images (e.g., 'That is a man', 'That is color'). Since we may receive images of things that do not exist, we may be misled into a non-verdical cognition of such things and mistakenly come to believe that they exist. Thus believing, we may take the further step of applying either of the above concepts to the putative things and hence formulate false judgments of the form 'That is a man' or 'That is color'. The fact that the created exemplar, from which these concepts are derived, is equally similar to the veridical and non-veridical sense images might thus seem to be connected with some mistakes of judgment. And if there is nothing in the images that would enable us to distinguish the one case from the other to the Academics' satisfaction, one might conclude that we cannot in this way have knowledge that is certain according to the Academics' standard.

It will follow further that we can have no certain knowledge on the basis of the created exemplar, only if this is the only way in which we use it. Scotus maintains that it is not. For he claims that the universal concepts formed on the basis of the species can be used to formulate the first principles of the various speculative sciences and that the truth of such principles in no way depends either upon the existence or nonexistence of sensible things, or upon their contingent sensible properties.[48] The fact that the created exemplar is equally similar to verdical and non-veridical exemplars would thus be irrelevant to our

48. *Ibid.*, n.246, (Vaticana III, 150–51); n.250, (Vaticana III, 152–53).

knowledge of first principles. In the passage noted above, Henry appears uncertain about whether or not to say that it is the concepts acquired through the created exemplar apart from divine illumination that we use to formulate and come to know first principles. Of course, if it is not these concepts, Scotus's counterexample fails, at least *ad hominem*. On the other hand, Henry considers in a.2, q.2, an argument similar to his own argument here, and makes the same response to it as Scotus makes to him.[49]

The third principal defect Henry identifies in knowledge based on the created exemplar alone has to do with its content. He says that everything "impressed by any exemplar abstracted from the thing itself is imperfect, obscure, and nebulous"[50] and again that all cognition acquired through phantasms is somehow obscure.[51] In the same vein, he reasons that since the created exemplar is an incomplete likeness of the thing, the mind, by its purely natural powers, is able to conceive through it only the incomplete truth of that thing.[52] It is clear why Henry should think that the first concept formed on the basis of the created exemplar should provide only an imperfect apprehension of the truth of things: for by it, we conceive of things only in terms of their sensible qualities and not in terms of their substance or quiddity. Henry is suggesting further that while we do conceive of the substance or quiddity of things by means of the second concept, we are not thereby furnished with a clear and distinct cognition of it.

Thus, while knowledge properly speaking based on the created exemplar may possess the certainty of freedom from error and actual doubt, Henry thinks it does not possess the higher degrees of certainty that come with stability, infallibility, and clarity. The latter are possible for us only by divine illumination.

49. Ad 1, fol.24r G.
50. A.1, q.2, fol.7v L.
51. A.2, q.1, fol.23v B.
52. A.1, q.3, fol.10v G.

## 6. KNOWLEDGE ACQUIRED BY DIVINE ILLUMINATION

So far, Henry has agreed with the Aristotelians that knowledge is the natural activity of man, and has conceded that knowledge that is free from doubt and error lies within the scope of purely natural human powers. In saying this, Henry does not mean that such knowledge is entirely within our control, however. We have not been endowed with a natural power to see-things-at-will or to hear-sounds-at-will. Rather what we have a natural power to do is to-see-things-when-our-faculty-of-vision-is-acted-upon-by-visible-things and to-hear-sounds-when-our-faculty-of-hearing-is-acted-upon-by-sound-waves. Again, our minds are so constructed that we are able to have an incomplete conception of the truth of things when the requisite species have been produced in our minds. Nevertheless, Henry thinks that sensible things are by their natures so constructed that when they get sufficiently close to a sense faculty, and when the appropriate medium is present, in short, when the standard conditions of perception obtain, they act on the sense faculty by natural necessity to produce images and indirectly phantasms and species in the mind of the perceiver.

Yet, Henry thinks the Aristotelians are wrong if they think that the perfection of knowledge—the attainment of the higher degrees of certainty—lies within the scope of our natural powers. For he thinks we have not been endowed with the natural power to have these higher degrees of certainty either at will or when acted upon by some natural object. Rather what we have the natural power to do is to-have-these-higher-degrees-of-certainty-when-specially-illuminated-by-the-divine-exemplar.[53] There is no psychological state producible in man by creatures alone which divine illumination follows with a law-like regularity. Rather God reveals the eternal rules to whomever He wishes.[54]

As noted above, there are two ways in which Henry thinks the divine exemplar may illuminate the human mind: (1) one

53. A.1, q.2, fol.8v T.

54. A.1, q.2, fol.7v M, fol.8r M; a.1, q.4, fol.11v D.

way—and the only way that is made available to us in this life—is by serving as a *cause* of the intellect's apprehending the truth of things with a higher degree of certainty. Henry's account of how this happens is marked more by metaphor than by precision. Briefly, he reasons that in order for the soul to cognize a thing, it must become like that thing. But the created exemplar furnishes it only with an imperfect and incomplete likeness of the thing and the concept formed on the basis of it is likewise imperfect and incomplete. The divine exemplar repairs this defect by causing a more perfect likeness in the intellect.[55] Nevertheless, it performs such a service for us in this life only with regard to those things of which we already have a created exemplar.[56] The uncreated truth is said to complement the created exemplar and to act together with it as one cause of cognition,[57] and so "impresses itself in our concept and transforms our concept to its own character,"[58] just as a signet ring impresses its image into the wax.[59] By means of the resultant transformed concept, we can have clear knowledge of the unadulterated truth of a thing. Since God is not bound by any necessity to provide such aids to our knowledge, He offers it to whomever He wills. Most of the time, God wills to make it available to each according to his disposition or capacity, although it is a gift of grace.[60] Sometimes, however, He may have reason to reveal the truth of things to the evil—perhaps even to the devil himself[61]—and to hide it from the good.[62] Alternatively, He may altogether deprive someone of such illumination because of some serious misdeed.[63]

The advantage of this knowledge of the truth of things over that produced by the unaided created exemplar, is one of in-

55. A.1, q.2, fol.7r L.
56. A.1, q.3, fol.10r F; a.1, q.4, fol.12v E.
57. A.1, q.3, fol.10v G.
58. A.1, q.2, fol.7r L.
59. A.1, q.3, fol.10r F.
60. A.1, q.2, fol.8v S.
61. A.1, q.3, fol.9r A.
62. A.1, q.2, fol.8r M.
63. A.1, q.2, fol.8v S.

creased clarity. (i) Nevertheless, it is not clear in the highest degree.[64] A human being may know some of the things he knows in this fashion with greater clarity than others: first principles, with greater clarity than those of natural science; and the latter with greater clarity than the tenets of theology.[65] Perfect clarity is reserved for the beatific vision in which the divine exemplar is not merely a cause but the object of cognition, in the next life. (ii) Further, this knowledge does not possess perfect stability. For while one of its causes, viz., the divine exemplar, is immutable, another, viz., the created exemplar, is mutable. And Henry does not include among the effects of divine illumination in this life, any special intervention to make the existence of the species more stable. (iii) Finally, Henry seems to deny that this knowledge is self-certifying. For while endorsing Augustine's claim that in the next life "we shall see the truth without any difficulty and thoroughly enjoy that most clear and certain truth," he adds that "because of the overshadowing of this present life, it frequently happens that one who knows with certainty does not know to what extent he knows with certainty..."[66] And on the other hand, he approves Aristotle's comment that some who hold opinions do not doubt them but mistake them for certain knowledge. Henry thus seems to be admitting that there are no infallible signs by means of which we can identify such knowledge of the truth and distinguish it from mistaken opinion about the natures of things.

(2) The second way the divine exemplar can illuminate the human mind is by serving as an object of cognition. Henry says that the angels see the truth of creatures better in such an unobstructed vision of the divine essence than they do in a direct vision of the creatures themselves. He suggests that just as "we cognize that an image of Hercules is a true image of him by seeing Hercules and thus noticing the correspondence of the image to the exemplar," so we would be able to judge, e.g., that Socrates is a true man by seeing the divine exemplar and noticing the correspondence of Socrates (the image) to his ex-

64. A.2, q.1, fol.23v B.
65. A.2, q.3, fol.24v M.
66. A.2, q.1, fol.23v B.

emplar.[67] The divine exemplar, unlike the created exemplar, is stable and immutable. Further, knowledge based on it would be clear and distinct in content.[68] Finally, following Augustine, Henry thinks that such knowledge would be self-certifying—i.e., that there are infallible signs by which it may be distinguished from false cognitions[69]—although he does not explain how it is or can be so. Such an unobstructed vision of the divine exemplar is not generally available to human beings in this life. It has perhaps been granted to a few Saints by a very special privilege, but it is for the most part reserved for the Blessed in the next life.[70]

## 7. SUMMARY OF HENRY'S POSITION

Henry's response to the question of whether certain knowledge is possible is, on the whole, positive. But how far it is possible for human beings by their purely natural powers, depends upon what standards of certainty are employed. He admits that the certainty of freedom from doubt and error characterizes several kinds of cognitions naturally produced in human beings: viz., some sensory and intellectual apprehensions of things, some knowledge of a thing's conformity to its created exemplar, and some second hand information. Nevertheless, cognitions produced by purely natural powers never attain to the certainty of stability, infallibility, and clarity. Cognitions caused by the divine exemplar acting together with the created exemplar, may, in addition to being free from doubt and error, possess increased clarity, but not clarity in the highest degree. And only cognitions in which the divine exemplar is the object, and not merely the cause, of a cognition, possess the highest degree of certainty; and these are for the most part reserved for the Blessed in the next life.

67. A.1, q.2, fol.6r I.
68. *Ibid.* and a.2, q.1, fol.23v B.
69. A.2, q.1, fol.23v B; ad 1, fol.23v D.
70. A.1, q.2, fol.6v I; a.1, q.3, fol.9r A.

## 8. SCOTUS'S POSITION

Like Henry, Scotus felt that an assertion of the possibility of human knowledge was a necessary preamble to his consideration of theological topics. But he found Henry's account of how human knowledge is possible to be disastrously wrongheaded. Near the beginning of his commentaries on the *Sentences*,[71] Scotus focuses on what he regards as the most pernicious part of Henry's opinion: viz., the latter's attempt to argue that we cannot have knowledge of the unadulterated truth by purely natural powers on the basis of the created exemplar, but only by means of special divine illumination. Scotus maintains that the premisses that lead Henry to this conclusion "seem to lead to the conclusion that all is uncertain, the opinion of the Academics."[72] Some of Scotus's criticisms of Henry's reasoning have been discussed above. It will not repay us to examine them in further detail, because, in making his case against Henry, Scotus does not always represent Henry's position and intentions correctly. Nevertheless, we have already seen that the general thrust of Scotus's arguments is accurate. He is right to hold that some of Henry's reasons for denying that knowledge based on the created exemplar counts as knowledge of the unadulterated truth would also go to show that the knowledge that Henry thinks is provided by divine illumination in this life, falls short of the certainty demanded by the Academics.

If Scotus thinks that Henry's premisses entail Academic scepticism, he also hopes to forestall a repetition of their "error" by showing how we can have certain and infallible cognition (i) of the first principles of the speculative sciences together with their consequences, (ii) of our own acts, and (iii) of particular and general facts about the physical world. Not that Scotus imagined that he had provided a demonstrative refutation of the Academics' view. Echoing Aristotle, he notes that there is no

71. I, d.3, p.1, q.4.
72. *Ibid.*, n.222, (Vaticana III, 135).

use in trying to demonstrate anything to a person who is unwilling to concede that anything is known *per se*, since such people will not grant any premisses from which a proof could proceed; they are "quibblers" who "are not to be convinced."[73] Further, in asserting that we can have certain and infallible knowledge by purely natural powers in this life, Scotus is not really maintaining anything that the Academics could dogmatically deny. Towards the end of his discussion, he claims to have shown how we can have knowledge of "the infallible truth without doubt and deception."[74] Again, speaking about our knowledge of the physical world, he remarks,

> If, then, we neither are in doubt nor are mistaken about the truth of these things, as is clearly the case, we are certain of things cognized through the senses. For where doubt and deception are excluded, there we have certainty.[75]

On Scotus's criterion, it seems that the exclusion of doubt and error suffices for certainty. His discussion does not further clarify whether it is enough that we do not in fact doubt an error-free cognition, or whether doubt must be logically or psychologically impossible. In either case, an Academic sceptic will not deny that we ever have such cognitions, but will question our ability to tell if we do. Moreover, if this is all that Scotus means by 'certainty', it is clear that Henry will not disagree with Scotus's general claim that certain knowledge is possible for human beings in this life by purely natural powers. For although Scotus does not here take any note of it, Henry attributes this sort of certainty both to what he labels "knowledge in the broad sense" and to knowledge based on the created exemplar. Yet, if the certainty Scotus offers is only that measured against Henry's "lower standard," Scotus clearly thinks that it is the only certainty that a reasonable man, who is not a "quibbler," will be interested in.

73. *Ibid.*, n.256, (Vaticana III, 155).
74. *Ibid.*, n.258, (Vaticana III, 156–57).
75. *Ibid.*, n.225, (Vaticana III, 136).

## 9. KNOWLEDGE OF FIRST PRINCIPLES

First, Scotus tries to show how we can have certain and infallible knowledge of first principles and their consequences by purely natural powers. If we are to have such knowledge this way, we must be able to acquire by purely natural powers the concepts from which such propositions are formulated. Scotus thinks that we can do this through a purely natural process of abstraction that begins with sense experience. The agent intellect illuminates the phantasm produced by sense experiences and abstracts an intelligible species from it. On the basis of this species, a universal concept of the essence or nature of a thing may be formed. Scotus concedes that sometimes the concepts thus formed are unclear. But he maintains, contrary to Henry, that the mind is capable of forming clearer concepts by using the traditional method of division to arrive at the definition of the essence or nature first conceived of. No special divine illumination is needed.[76]

Given an appropriate set of clarified concepts, it will be possible to formulate simple analytic propositions—such as 'The whole is equal to the sum of its parts and greater than any one of them' or 'Horses are animals'—or logical rules—such as the principle of noncontradiction—which are true solely by virtue of the meaning of their terms. Assent to such propositions is necessarily free from error because these propositions are necessarily true. That it is likewise free from doubt, Scotus suggests in two arguments: (a) First, he argues that it is impossible for anyone who grasps the terms of a simple analytic proposition or a logical rule and formulates it, not to recognize its truth.

> ...The terms of principles known *per se* are so identical that it is evident that one necessarily includes the other. Therefore, an intellect compounding these terms [into a proposition], from the very fact that it apprehends them, has present to itself the necessary cause—and indeed the evident cause—of the conformity of that act of compounding to the

76. *Ibid.*, n.259, (Vaticana III, 157).

> terms that compose it. This conformity, then, the evident cause of which it apprehends in the terms, is necessarily evident to it...[77]

Scotus is not arguing fallaciously that since the intellect grasps the terms, and the terms are the cause of truth, that the intellect grasps the truth of the proposition. One can be aware of a sufficient cause of $x$ without being aware that it is a sufficient cause of $x$, and in such a case one would not thereby have any awareness of $x$. Scotus adds that the terms are the *evident* cause of the truth of the proposition, meaning that it is obvious to anyone who grasps the terms and formulates the proposition that the terms are the cause of the truth of that proposition.

(b) Second, Scotus contends that it is impossible that anyone should grasp the terms of such a proposition and formulate it, and nevertheless deny its truth. For just as it is impossible that contrary properties should exist simultaneously in the same thing, so it is impossible that one contrary should exist simultaneously in the same thing as a sufficient cause of the other contrary exists in. For example, just as it is impossible that the same thing should be simultaneously white all over and black all over, so it is impossible that it should be white all over when there exists in it a sufficient cause of its being black all over. But, following Aristotle,[78] Scotus maintains that having the opinion that $p$ and having the opinion that not-$p$ are just as much contrary properties as being black all over and being white all over. He concludes, therefore, that it is impossible both that one should simultaneously believe a proposition true and believe that same proposition false, and that one should believe a proposition false when there is in one a sufficient cause of one's believing it true. But he has claimed in the first argument that one's grasping the terms of a simple analytic proposition or logical rule and formulating it, is a sufficient cause of one's recognizing its truth. Therefore, it is impossible that one should grasp the terms of such a proposition and formulate it

77. *Ibid.*, n.230, (Vaticana III, 138–39).
78. *Metaphysics* IV, 3, 1005b23–24.

and yet deny its truth.[79]

Scotus does not make clear in what sense it is impossible to deny or fail to recognize the truth of such propositions. His appeal to logical principles about the simulutaneous possession of contrary properties might suggest that he thinks this is logically impossible. On the other hand, he says that grasping the terms and formulating the proposition are a sufficient cause of assent. And depending upon what Scotus means by 'cause', there may be ontological necessity in one state of affairs' being the cause of another. Whatever Scotus may have thought, many contemporary philosophers would regard it as conceptually impossible that one should grasp the terms of a simple analytic proposition, formulate it, and yet deny it. For they would take a person's assent, or failure to assent, to such a proposition as criterion of a person's understanding, or not understanding its terms.

Later on in his discussion, Scotus says something apparently inconsistent with his more frequent claim. He admits, as premisses in arguments, that "an indisposed power can err with respect to any proposition whatever, as is clear in the case of dreams"[80] and that "just as it may appear to a dreamer that he sees, so the opposite of any speculative principle known *per se* might appear to him."[81] He thus seems to allow that a dreamer or a madman or anyone else whose cognitive faculties are indisposed might well assent to the opposite of a first principle—something which he has seemed to deny earlier. These remarks can be reconciled, however, if we assume that Scotus's considered opinion is that it is only where the faculty of cognition is not indisposed that grasping the terms of and formulating a simple analytic proposition or logical rule, are sufficient to cause a recognition of its truth, and therefore that only in such cases is it impossible to deny it or fail to assent to it.

One may object even to this more qualified conclusion that many people of sound mind and serious purpose apparently have been able to doubt such propositions. In *Metaphysics*,

79. *Ord.* I, d.3, p.1, q.4, n.231–32, (Vaticana III, 139–140).
80. *Ibid.*, n.256, (Vaticana III, 155–56); cf. n.257, (Vaticana III, 156).
81. *Ibid.*, n.257, (Vaticana III, 156).

Book IV, Aristotle lists a number of philosophers who appear to have denied the law of noncontradiction, maintaining that contradictories are simultaneously true and/or simultaneously false. Again, sceptics have questioned whether following the laws of thought and employing only such inference patterns as the perfect syllogism or *modus ponens* will always lead to consistent results—which is in effect to challenge the soundness of such principles. And it seems that in the face of sufficiently ingenious persuasive arguments, some sane and serious people might be brought to doubt other first principles as well.

It would be open to Scotus to meet this objection simply by adding another qualification to this claim. He might grant that persuasive arguments might undermine one's compulsion to assent or lead one to doubt such propositions, but insist that *in the absence of persuasive arguments* it remains impossible for anyone whose faculties are not indisposed to formulate such a proposition and yet deny it or fail to recognize its truth. Apparently, Scotus does not want to take this line. For later on in his discussion, he declares that while the mind is not compelled to recognize the truth of a necessary conclusion the demonstration of which it does not grasp, and "can even bring up sophistical arguments against that conclusion and on the basis of them dissent from it," nevertheless, "it cannot do this with something that is known first"—i.e., first principles.[82] And he calls Aristotle as his witness, citing the Philosopher's claim that "it is impossible for anyone to believe the same thing to be and not to be, as some think Heraclitus says. For what a man says, he does not necessarily believe."[83] In the same way, Scotus suggests, it may be possible for someone to *say* that he doubts any first principle or to deny it *with his words*, but it is impossible for him actually to *believe* the contrary.

In summary, Scotus thinks that by our purely natural powers we have the concepts from which to formulate simple analytic propositions and logical rules. And no one whose cognitive faculties are not indisposed can formulate them and yet deny

82. *Ibid.*, note added by Scotus at n.246, (Vaticana III, 150).
83. *Metaphysics* IV, 3, 1005b23–25.

them or fail to recognize their truth. Hence, anyone whose cognitive faculties are disposed and who formulates them, will have certain and infallible knowledge of them by Scotus's standards. He adds further that since at least one valid inference pattern—the perfect syllogism—is likewise obvious, "once we are certain about first principles, it is clear how we can be certain about conclusions inferred from them." For "the certainty of the conclusion depends only on the certainty of the principles and the evidence of the inference."[84] Nevertheless, as just noted, it is possible to doubt the consequences of principles whose truth one grasps, so long as it is not clear to one how or whether the conclusion follows from the premiss.

It is important to realize, however, that in showing this, Scotus has not shown that we can be certain about first principles and their consequences according to the standard of the Academics. For they granted when our faculties are disposed, we cannot formulate genuine first principles and yet deny them or fail to recognize their truth. Scotus himself has admitted that when a person's cognitive faculties are indisposed, they can be in error about any proposition, even first principles. And in any case, might we still not overestimate the clarity of our concepts and mistake false propositions for genuine first principles? By what criterion, they will ask, are we to distinguish cases of the latter sort from genuine apprehensions of first principles? Scotus does consider the query as to how we know when our faculties are disposed, although (as we shall see) his account would not satisfy the Academics. But this brings us to the problem of how we can have certain knowledge of our own acts—to which we now turn.

## 10. KNOWLEDGE OF OUR OWN ACTS

Scotus begins by saying that where propositions regarding our own acts are concerned, "we are as certain of many of these as we are of first principles and of propositions known *per*

84. *Ord.* I, d.3, p.1, q.4, n.233, (Vaticana III, 140).

*se*."[85] In support of this, he appeals to Aristotle's remark in *Metaphysics* IV, 6, that those who demand proofs of whether we are asleep or awake "seek a reason of things for which there is no reason; for there is no demonstration of a principle of demonstration."[86] Similarly, Scotus says, other statements about our present mental acts—e.g., 'I understand', 'I hear', and 'I see'—are known *per se*.[87]

Such propositions about our present mental acts and states cannot be on a par with first principles in all respects. For first principles are true solely by virtue of the meanings of their terms. But propositions such as 'I am awake', 'I understand', 'I hear', and 'I see' are contingent propositions and cannot be true solely by virtue of the meanings of their terms. Further, since at least some of these propositons—e.g., 'I hear', 'I see'—can be false of a person when his faculties are indisposed, it will not be impossible for such a person to formulate these propositions and yet deny them. In what ways, then do Aristotle and Scotus think that propositions about our present mental state and acts are like first principles? Principally, I think, in being *non-inferential*. Someone who asks for a demonstration of the fact that he is awake seeks a reason where there is no reason, because there is nothing more obvious from which he could infer it. Apparently, in Scotus's opinion, the same goes for the fact that I understand or hear or see. Scotus remarks that it is very important some contingent propositions are "first and immediate," since "otherwise there would be an infinite regress in contingent propositions or something contingent would follow from a necessary cause—both of which are impossible."[88] It is not clear whether Scotus also thinks that 'I am awake', 'I understand', 'I hear', and 'I see' are *indubitable* when true and formulated by someone whose cognitive faculties are disposed. For once again one might object that even in these circumstances, it is possible to doubt them, since many

85. *Ibid.*, n.236, (Vaticana III, 144).
86. *Ibid.*, n.238, (Vaticana III, 145).
87. *Ibid.*, n.239, (Vaticana III, 145–46).
88. *Ibid.*, n.238, (Vaticana III, 145).

philosophers have done so. And Scotus acknowledges, at least twice in this question[89] the existence of those who demand a proof that one is awake rather than asleep. But in one of these places, he repeats Aristotle's observation that these people seem to distinguish waking from sleeping, well enough for purposes of action,[90] as if this were another case in which philosophers express doubts with their words but do not actually doubt with their minds. If so, his view would be that where such propositions about our own present mental acts or states are concerned, it is impossible that we should formulate them when they are true and yet doubt them or fail to recognize their truth. And this is enough for certain and infallible cognition, according to Scotus's standard.

Scotus's claims regarding our self-knowledge are bolder than some traditionally defended. For example, Augustine concentrates in *Contra Academicos* on showing that there are various propositions—e.g., 'I exist', 'I am alive', 'I think', 'I seem to see the earth or sky',[91] 'This seems white to me',[92] 'This seems bitter', 'This taste is pleasant'[93]—that we can know about ourselves independently of knowing whether we are asleep or awake, sane or insane. And, as Scotus himself notes,[94] Augustine repeats these examples in *On the Trinity*, Book XV, chapter 12, as especially telling against the Academics. But Scotus follows Aristotle in including 'I am awake' among the propositions known *per se*. Further, although he understands 'I hear' and 'I see' in such a way that they may be true even if our perceptions are non-veridical, he follows Aristotle in thinking that we cannot perceive anything unless we are awake. Similarly, he remarks that the intellect is not able to use intelligible species during sleep, so that it is doubtful whether we can understand anything when we are asleep either.[95] It seems on Scotus's view

89. *Ibid.*, n.238, (Vaticana III, 144); n.254–57, (Vaticana III, 154–56).
90. *Ibid.*, n.256, (Vaticana III, 155).
91. III, c.11, sec.24, (CSEL LXIII, 64–65).
92. III, c.11, sec.26, (CSEL LXIII, 66–67).
93. III, c.11, sec.24, (CSEL LXIII, 64–65).
94. *Ord.* I, d.3, p.1, q.4, n.225–28, (Vaticana III, 136–37).
95. *Ibid.*, n.251–52, (Vaticana III, 153).

that 'I see', 'I hear', and 'I understand' all entail 'I am awake'. Hence, the former cannot remain indubitable if the latter is called into question.

This invites the Academics' usual query: "in dreams, I seem to see and seem to hear, whereas in reality I neither see nor hear. Indeed, in dreams it may seem to me that I am awake. How do I distinguish these occasions from those on which I am really awake and really do see or hear?"

Scotus expresses considerable exasperation with such an objection.[96] He says that if the objector is one of those people who hold that nothing is known *per se*, then there is no point in arguing with him. On the other hand, if the objector will grant that something is known *per se* and that an indisposed power can err about anything, then Scotus tries to show him that he should also admit that we can tell when our faculties are disposed and hence when we are awake. He constructs the following argument.

1. Some proposition is known *per se.*

2. Therefore, some proposition can be recognized as being known *per se.* (1)

3. An indisposed power can be in error about anything.

4. Therefore, the intellect understands only when it is disposed (which is only when the person is awake). (3)

5. Therefore, it can be recognized when the intellect is disposed (and when the person is awake). (2 and 4)

2 and 4 do seem to yield 5. But 1 does not entail 2. Perhaps Scotus would say that, nevertheless, one is not in a position to assert 1 unless one has recognized some proposition as being known *per se*. It is not obvious, however, that one might not have some general reason for thinking that something or other is known *per se*. Similarly, 3 does not entail 4. Even if an in-

96. *Ibid.*, n.255–57, (Vaticana III, 154–56).

disposed power can be in error about anything, it does not follow that it is always in error about everything. Perhaps Scotus would argue further that even if by chance an indisposed faculty is sometimes right, we would have no criterion for identifying when the indiposed faculty is right. Hence if we are to recognize a case in which the deliverance of a faculty is right, it must be one in which the faculty is disposed. Even if the argument were sound, however, it would not meet the Academics' query. For they have asked how, by what criterion, we can distinguish cases in which we are genuinely awake or genuinely see or hear from those in which we merely appear to be awake, to see, or to hear. Scotus has replied that we recognize that we are awake and that our faculties are disposed in recognizing that something is known *per se*. But if premiss 3 is true, then an indisposed faculty can be mistaken, not only in thinking that it is disposed and that the person is awake, but also about whether something is known *per se*. And the Academic will ask the question with which we ended the previous section: how can we distinguish genuine apprehensions of a first principle from merely apparent ones?

In the final paragraph of article 3, Scotus makes clear how little he cares abut the Academics' objections or standards of knowledge and certainty.

> In reply to the form of this sophistical argument, then, I say that just as it appears to a dreamer that he sees, so the opposite of some speculative principle known *per se* could appear to him. Nevertheless, it does not follow that the latter principle is not known *per se*. And in the same way it does not follow that it is not known *per se* to a hearer that he hears. For an indisposed power can be in error about anything, but a power that is disposed cannot. And it is known *per se* when it is disposed and when it is not. Otherwise, nothing else would be recognized as known *per se*. For one could never tell what would be known *per se* or whether this is something to which the intellect is disposed or to which it would assent in this way.[97]

Here Scotus is saying that the mere logical possibility that one might hold a mistaken belief about $p$, or even the fact that one

97. *Ibid.*, n.257, (Vaticana III, 156).

sometimes does so, does not prevente from knowing *p per se* when one believes it and it is true. And this is so even if there are no infallible signs, according to the Academics' standard, by means of which to distinguish the situations in which one's belief about *p* is true from those in which it is false. Scotus wants to say that 'I see' and 'I hear' are known *per se* in that no one who formulates them when they are true can deny them or fail to recognize their truth. If you ask, "but what is the difference between the cases in which I merely seem to see or hear but do not from those in which I genuinely see or hear?"—he will say that the latter are those cases in which one is awake and one's faculties are disposed. And 'I am awake' and 'My faculties are disposed' are known *per se*, in that no one who formulates these propositions when they are true can deny them or fail to recognize their truth. And that is as much assurance as Scotus thinks it is reasonable to demand.

## 11. KNOWLEDGE OF THE PHYSICAL WORLD

Finally, Scotus thinks that we can have certain and infallible knowledge about the physical world based on our knowledge of first principles known *per se* together with generalizations about our sense experiences. I shall consider first his account of how we know particular facts about the physical world and then how we know universal generalizations.

In discussing the first, Scotus focuses on the question, "how can a person be certain of those things which fall under the acts of the senses, for instance, that something is white or hot in the way it appears to be?"[98] He distinguishes two sorts of cases. (a) One is that in which "all the senses cognizing the thing make the same judgment about it."[99] When he speaks of "all the senses," it is not clear whether he means "all the senses of a given perceiver" or "all the senses of all of the perceivers cognizing the thing." Perhaps he means both. When all the senses agree

98. *Ibid.*, n.240, (Vaticana III, 146).
99. *Ibid.*

on a given occasion, the problem of deciding which one is more and which one less reliable does not arise. Instead we can focus on whether their agreed deliverances on that occasion are trustworthy.

Scotus thinks that we sometimes can know that they are reliable on the basis of the following principle:

(A) What occurs in most instances by means of something that is not a free cause is the natural effect of this thing.

Working with conceptions of chance and nature derived from Book II of Aristotle's *Physics*, Scotus maintains that (A) is true by virtue of the meaning of its terms. For, on these conceptions, it is a contradiction to say that *A*'s always or very frequently cause *B*'s but they do so merely by chance (where *A* is a natural cause). A free cause may produce a certain sort of effect very frequently simply because it wills to do so. But the effect of an unfree cause that is not a voluntary agent is either a chance effect or a natural effect. Hence, if an unfree cause always or very frequently produces a certain sort of effect, the effect in question is the one that it is ordained by nature to produce. Given (A), Scotus reasons that

> if the same change in the senses repeatedly occurs in the majority of cases when such an object is present, it follows that the transformation or species produced is the natural effect of such a cause, and thus the external thing will be white or hot or such as it naturally appears to be according to the species so frequently produced.[100]

How do I know that the chair is white? Scotus's answer is that in the majority of cases in the past when I have been in the environs of the chair, it has produced a certain pattern of sensations in me, including a sensation of white color. By (A), I can infer that the chair has inhering in it forms that are naturally apt to produce such sensations in me under those conditions. And what form would be naturally apt to produce sensations of white in a perceiver, but the form of whiteness? Hence the chair

100. *Ibid.*, n.241, (Vaticana III, 147).

must be white. How do I know that fire is hot? Because in the majority of cases in the past when I have approached fire, it has produced sensations of heat in me. Hence, by (A), it must have inhering in it a form that is naturally apt to produce sensations of heat in perceivers—viz., the form of heat. It follows that the fire must be hot. Similarly for other sensible qualities. Scotus's suggestion is that from (A), together with certain generalizations about my past experience, I can have inferential, but certain and infallible knowledge concerning the sensible qualities of particular things.

Scotus's account is, unfortunately, incomplete. He has explained how I can know simple analytic propositions such as (A) (see section 9 above). And if I can have knowledge of my present mental states and acts (see section 10 above), perhaps I can also make knowledgeable generalizations about my past experiences. But (A), together with the fact that I have very frequently had a certain pattern of sensations in the past, do not by themselves entail the conclusion that the chair is white. It is necessary to know in addition that this pattern of sensations was not produced by a free cause—say Descartes' evil demon—simply for its own amusement. And to conclude that this particular chair is white, I must also know that it has been the unfree cause of this pattern of sensations in me on each of many past occasions. Nowhere in this question does Scotus explain how I can acquire such additional knowledge.

(b) As sceptics are fond of pointing out, the deliverances of the senses regarding a given physical object very often disagree. While Scotus would grant that the deliverances of the senses alone would not enable us to discriminate the non-veridical from the veridical perceptions (if any), he is confident that in such cases "we can be certain what is true and which sense is in error" by appealing to a combination of analytic propositions known *per se* and knowledge gained on other occasions from the agreed testimony of the senses.[101] Scotus illustrates this claim with the example of the stick that is partly in the water and partly in the air. In this position it looks broken; but if we

101. *Ibid.*, n.242, (Vaticana III, 147).

run our hand along it, it does not feel broken. And when it is either wholly in water or wholly in air, it does not look broken either. Hence, the senses disagree as to whether or not the stick is broken. Scotus thinks that we can identify the first mentioned visual perception as the mistaken one on the basis of the following principle:

(B) The harder object is not broken by the touch of something soft that gives way before it.

If 'hard' and 'soft' are regarded as measures of relative impenetrability or penetrability, (B) might be regarded as true by the virtue of the meaning of its terms, as Scotus claims.[102] He then adds that "both the senses of sight and touch attest to the fact that the stick is harder than the water and that the water gives way before it."[103] For instance if we submerge the stick in water and then move it back and forth in the water, it will both look and feel as if the water does not break the stick but rather gives way to it. Thus, by combining our knowledge of the analytic proposition (B) with knowledge acquired from cases in which sight and touch agree, we can judge that sight is wrong in the case first mentioned. Scotus presumably thinks that in all cases in which the senses disagree, there will be some analytic proposition such as (B) and some (actual or possible) set of experiences in which the senses agree that would enable us to identify with certainty which sense or senses are in error on the occasion in question.

(c) Scotus does not think that our knowledge of the physical world is exhausted by our cognition of particulars and their properties. Rather from our experience of numerous particulars, together with (A), we can acquire knowledge of a more general sort. Strictly speaking, (A) licenses the inference from the premiss that *A*'s cause *B*'s very frequently, to the conclusion that *B*'s are what *A*'s are *naturally* ordained to produce. The truth of the premiss is, according to Scotus, "a fact gathered

102. *Ibid.*, n.243, (Vaticana III, 147).
103. *Ibid.*

from experience." How we gather it, he does not explain in detail, but says merely that it involves noticing that *A*'s are a constant factor in each of very many situations in which *B*'s are produced, whereas *C*'s, *D*'s, etc. are not always present.[104] For example, we may observe that the moon is very frequently eclipsed, and discover by examining our experience that the constant factor in each of these eclipse situations is the fact that the earth occupies a certain position between the sun and the moon. We may conclude by (A) that an eclipse of the moon is a natural effect of the earth's taking up that position. Again, we may observe that very many samples of a certain species of herb are hot. (A) entitles us to infer that being hot is a natural effect of the specific form of such herbs.

In introducing this discussion, Scotus suggests that (A) is an even more powerful tool, by means of which

> ...even though a person does not experience every single individual, but only a great many, nor does he experience them at all times, but only frequently, nevertheless a person with this experience knows infallibly that it is so always and in every case.[105]

The suggestion is that given (A) together with the requisite experiences, one can validly infer not merely that *B*'s are the natural effect of *A*'s or that *A*'s naturally cause *B*'s, but also the universal generalization that *A*'s always cause *B*'s. For example, we could infer that the earth's taking up a certain position between the sun and the moon always causes the moon to be eclipsed, and that all herbs of that species are hot. Towards the end of the section, however, Scotus retreats from this position, saying "perhaps we have here no knowledge of the actual union of the terms, but only knowledge of what is apt to be the case."[106] The proposition '*A*'s naturally cause *B*'s', which does follow from (A) together with the requisite experiences, does not entail '*A*'s always cause *B*'s' but only '*A*'s cause *B*'s in most cases and do so unless there is some impediment'. In many

104. *Ibid.*, n.235, (Vaticana III, 142–43).
105. *Ibid.*, n.235, (Vaticana III, 141).
106. *Ibid.*, n.237, (Vaticana III, 144).

cases, it is logically or naturally possible that there should be an impediment. Since heat is a quality really distinct from the specific form of the herb, it is logically possible that the latter exist without the former. And even if the latter produces the former most of the time, it is logically possible that some impediment should prevent it from doing so in this instance.

## 12. DOES OCKHAM'S EPISTEMOLOGY HAVE SCEPTICAL CONSEQUENCES?

For Ockham, all certain knowledge either is, or is based on evident cognition. Where our knowledge of contingent states of affairs—whether in the physical world or in our own minds—is concerned, he locates the source of evident cognition in intuitive cognition (see chapter 13 above). There has been more than one attempt in the literature to argue that Ockham's epistemology cannot consistently allow human beings any certainty in the Academics' sense, however. For present purposes, it will be enough to examine two.

(a) In their now notorious discussions, Etienne Gilson and Anton Pegis seize on Ockham's assertion that intuitive cognitions of nonexistents are logically possible as yielding sceptical conclusions regarding our knowledge of the physical world. In Gilson's opinion, Ockham could not assert that an all-powerful God could conserve in us an intuitive cognition of a nonexistent thing

> without endangering what was, according to his own principles, the only type of evident knowledge: the intuition of that which is. If God can conserve in us the intuition of something that is not actually existing, how shall we ever be sure that what we are perceiving as real is an actually existing thing? In other words, if it is possible for God to make us perceive as real an object that does not really exist, have we any proof that this world of ours is not a vast phantasmagoria behind which there is no reality to be found?[107]

107. "The Road to Scepticism," *The Unity of Philosophical Experience*, (New York, 1937), 61–91, at 80–81.

Gilson's idea is that if God could do this, then it would be logically possible for our experience to be just as it is now, even though no mind-independent physical objects exists. And in that case, even if some of our cognitions of physical objects are intuitive and some of our judgments about the physical world are true, our present experience must not contain any infallible signs that they are. Obviously assuming that Ockham reserves the title 'evident' for judgments that are certain in the Academics' sense, Gilson concludes that Ockham could not consistently regard any of our judgments about the physical world as evident. Pegis concurs in Gilson's assessment:

> ...Certainly Ockham thinks that he sees the star when the star no longer exists. Is Gilson wrong in attributing such a view to Ockham? If texts such as this mean anything, there is surely no way of avoiding Gilson's conclusion.[108]

Philotheus Boehner[109] and Sebastian Day[110] have rightly rejected these particular charges as resting on a misunderstanding of Ockham. For according to Ockham, it is true by the definition of 'intuitive cognition' that any judgment caused by an intuitive cognition is evident and therefore true. He explicitly asserts that if God ever did conserve in us an intuitive cognition of a nonexistent object, any judgment caused by that cognition would have to be a judgment that the object did not exist. Thus, Pegis is mistaken in attributing to Ockham the view that if he had an intuitive cognition of a nonexistent star, he would continue to think that the star existed. Again, if God conserved in us all of the intuitive cognitions we now have, while bringing it about that no mind-independent physical objects existed, our experience would—contrary to Gilson's understanding—be

108. "Concerning William of Ockham," *Traditio* II (1944): 465–480, at 476.

109. "The Notitia Intuitiva of Non-Existents According to William Ockham," *Traditio* I (1943), 223–275, especially 223, and "In propria causa: A Reply to Professor Pegis," *Franciscan Studies* N.S. V (1945): 37–54.

110. *Intuitive Cognition: A Key to the Significance of the Later Scholastics*, (St. Bonaventure, NY, 1947), 145.

considerably different from what it is now. For we would judge not to exist many objects which we now judge to exist. So long as we are sure that the cognitions we have are intuitive, there can be no reasonable doubt about the truth of the judgments we are caused by them to make.

(b) Nevertheless, it seems that a sound argument for their conclusion could be based on Ockham's remarks in *Quodlibeta* V, q.5.[111] For Ockham explains there in reply to two objections that God cannot cause in us *evident* assent that this thing is present or that whiteness exists when the thing is absent or when the whiteness does not exist, respectively. The reason is that evident judgments are, by definition, true judgments. It is a contradiction to speak of an evident judgment that what is not the case is the case, just as it is a contradiction to suppose that an intuitive cognition causes a false judgment. Ockham goes on to allow, however, that God can cause us to assent to the propositions 'This thing is present' and 'This whiteness exists' when the thing is not present or when the whiteness does not exist. He refers to the act by which we are caused to assent as a "creditive act" and emphasizes that it is an abstractive rather than an intuitive cognition, just as the assent that it causes is not evident.

Clearly, by allowing in these passages that it is logically possible that God should cause us to believe what is false, Ockham is allowing that it is logically possible that God should deceive us. But, the sceptic may wonder, if it is logically possible He should deceive us once, is it not also logically possible that He should deceive us constantly? In that case it would be logically possible that none of the cognitions we take to be intuitive really are intuitive, so that it would be logically possible that our experience be just what it is now and no mind-independent physical objects exist. Ockham's admission that it is logically possible that God should deceive us thus seems to exclude the possibility that we should have knowledge about contingent states of affairs in the physical world that is certain according to the Academics' standard.

111. (OTh IX, 498–500).

Boehner,[112] in effect, objects to the above reasoning that it does not follow from the fact that God can deceive us in the above mentioned way—i.e., by acting together with an abstractive cognition to cause us to assent to a false proposition about some contingent state of affairs in the physical world—that we can never be certain that any of our judgments are evident and therefore true. For where we are dealing with contingent propositions, evident assents are distinguished from such false beliefs in that the former are based on intuitive cognitions and the latter on abstractive cognitions. Ockham himself asserts that experience certifies that we have intuitive cognitions of physical objects.[113] It is tempting to infer from this that he thought there were infallible introspective marks by means of which we could identify intuitive cognitions of physical objects and distinguish them from abstractive cognitions in experience. And if so, given Ockham's definitions, we could thereby identify evident assents to propositions about the physical world and do so with certainty in the Academics' sense and on the basis of introspection alone. And if we can do that, then we can be certain in the Academics' sense that some of our judgments regarding contingent states of affairs in the physical world are true judgments.

Ockham cannot consistently reason this way, however. For one thing, so far from inferring that judgments are evident from the fact that cognitions are intuitive, Ockham actually deduces that we have intuitive cognitions of physical objects[114] and of our own present mental acts[115] from the fact that we have evident cognitions of propositions about them.

Further, Ockham's account of intuitive and abstractive cognition seems to rule out the possibility that introspective marks should provide logically conclusive evidence that a cognition of

112. This seems to be Boehner's reasoning in "The Notitia Intuitiva of Non-Existents According to William Ockham," 234–35.

113. *Ord.* I, Prologue, q.1, (OTh I, 23).

114. *Quodl.* I, q.15, (OTh IX, 83); V, q.5, (OTh IX, 496).

115. *Ord.* I, Prologue, q.1, corollary 2, (OTh I, 40, 43); *Quodl.* I, q.14, (OTh IX, 79).

a physical object is intuitive rather than abstractive. His insistence against Scotus that intuitive and abstractive cognitions do not differ in content[116] casts doubt on this possibility. But his definition of 'intuitive cognition' seems to preclude such introspective identification completely. For according to it, that any judgment caused by the cognition is evident and therefore true, is a logically necessary condition for the cognition's being intuitive. In particular, any cognition on which we base a judgment about the physical world will count as intuitive, only if the judgment it causes is a true one. Since Ockham is not a phenomenalist, but thinks that any real physical object exists independently of the mind, it will not be possible to determine by introspection alone whether or not a judgment about the physical word is true. Indeed, before one can be certain whether such a judgment is true, one must first establish whether or not some mind-independent (and therefore non-introspectable) state of affairs obtains. Thus, it will not be possible to use one's certainty that a cognition of a physical object is intuitive as a basis for one's certainty that some judgment about the physical world is evident and hence that some mind-independent state of affairs obtains. For the latter will be epistemologically prior to the former, and not vice versa.

An analogous argument shows that it is impossible that we should gain Academic certainty that any judgment about the physical world is evident on the basis of any other introspectable mark. For it will be a logically necessary condition of a feature's being an infallible introspectable mark (in the Academics' sense of 'infallible') that the judgment it marks is a true one. Consequently, to distinguish genuine from merely apparent occurrences of that feature, I should first have to determine that the judgment so marked was true and hence that some non-introspectable state of affairs obtained. Hence, the epistemological priorities are once again reversed.

Perhaps it will be replied that, on the contrary, Ockham's theory does explain how I can know by introspection alone that my cognition of a physical object is intuitive. For on this ac-

116. *Ord.* I, Prologue, q. 1, (OTh I, 36–37); d.27, q.3, (OTh IV, 242).

count, if I have an intuitive cognition of a star, that cognition will act together with the intellect to produce in me an intuitive cognition of my intuitive cognition of the star. And the two cognitions together with the intellect will cause me to form the evident judgment 'I have an intuitive cognition of the star'.[117]

This does not show how I can be certain, by the Academics' standard, that my cognition is intuitive, however. For the sceptic does not deny that we have intuitive cognitions, or that we make any true judgments regarding the physical world or our own mental acts. Rather he questions whether we can discriminate a genuine from a merely apparent evident judgment. And he will argue that this is impossible unless there is some infallible sign that distinguishes the former from the latter.

Perhaps it will be said that I can do this by introspection as well, because I can have an intuitive cognition of my intutitive cognition of my intuitive cognition of a star and thereby judge that the second cognition was intuitive just as the first one was. Since Ockham allows that for each cognition, it is possible for me to have an intuitive cognition of it,[118] I can in principle tell with respect to each whether or not it is intuitive and hence whether the judgment it causes is true.

This proposal leads to an infinite regress, however. For I will be certain, by the Academics' standard, that my cognition of a star is intuitive, only if I distinguish genuine from merely apparent intuitive cognitions of intuitive cognitions of intuitive cognitions of a star. If I do that by appealing to yet another intuitive cognition, which I certify by appealing to yet another, etc., it will follow that I will actually be certain, by the Academics' standard, that my cognition of a star is intuitive, only if I am certain that each member of an infinite chain of cognitions is intuitive. But this would involve the simultaneous existence in my mind of infinitely many acts of intellect. And

117. *Ord.* I, Prologue, q.1, (OTh I, 66). This argument was suggested to me by Katherine Delfosse.

118. *Ibid.*, (OTh I, 65–66).

Ockham grants to an objector that this is impossible.[119]

It seems, therefore, that Ockham's account of intuitive and abstractive cognition does not provide for any infallible signs by means of which we can distinguish cases in which we have intuitive cognitions that cause evident judgments from those in which our cognitions are abstractive and our beliefs false. And this is so whether we are concerned with cognitions of physical objects or cognitions of our own mental states. Further, this consequence follows from Ockham's account, even when his admission that God has the power to deceive us is left aside. I conclude that his theory does not allow us any certain knowledge in the Academics' sense.

## 13. WAS OCKHAM INTERESTED IN CERTAINTY IN THE ACADEMICS' SENSE?

Gilson and Pegis seem to assume that Ockham was and/or should have been trying to show how we can have certain knowledge of the physical world according to the Academics' standards, and that his failure to do so represents a serious defect in his epistemology. In an earlier paper,[120] I took it for granted that they were right in this assessment. After reexamining the evidence, however, I think it much more probable that Ockham was no more interested in this project than Scotus was, but was content to show how we can have knowledge that is free from doubt and error.

(13.1) First, consider that Ockham clearly regards evident cognition as the paradigm of certain knowledge and locates it as the source of all other certain knowledge. Yet, his primary definition of it—as cognition of a true complex of terms (proposition) a sufficient mediate or immediate cause for which is a non-complex cognition of its terms—includes no stipulation that such a cognition must be distinguishable by infallible signs from mere beliefs. Indeed, as we have seen, the combination of

119. *Ibid.*; cf. chapter 13 above.

120. "Intuitive Cognition, Certainty, and Scepticism in William Ockham," *Traditio* XXVI (1970); 389–398.

this definition with his account of intuitive and abstractive cognition, excludes the possibility that there should be any such infallible introspectable signs. And the above mentioned characteristics of evident cognition correspond closely to those assigned by Scotus to our cognitions of propositions known *per se*: (i) These cognitions are said by Scotus and Ockham, respectively, to be free from error; and (ii) the propositions thus known are said to be such that one cannot formulate them when they are true and fail to recognize their truth. Scotus insists that where propositions known *per se* are concerned, it is altogether impossible that we should formulate them without assenting to them. Ockham's claim is weaker. He does say that a noncomplex apprehension of the terms of such a proposition is a sufficient cause of the evident cognition of it and denotes that the assent cannot be prevented by simple volition not to assent. But he does allow that it might be prevented, if one were confronted with persuasive arguments to the contrary, or if God intervened to prevent the acts of apprehension from causing any judgment (see chapter 13 above). In any case, both agree that when the assents are made, the propositions in question are not actually being doubted and that it is at least difficult, if not impossible, to doubt them. This suggests that in regarding evident cognition as a paradigm of certain knowledge, Ockham did not have his eye on Academic certainty, but the certainty of freedom from doubt and error.

(13.2) Second, there is the fact that, unlike his famous predecessors, Ockham nowhere discusses the Academics' views or arguments in detail. In the course of outlining his own theory of intuitive and abstractive cognition, he mentions their name only once, in quoting the following passage from Augustine's *On the Trinity*, Book XV, chapter 12:

> ...Whereas there are two kinds of things that are known—one of those that the mind perceives by the bodily senses; the other, of those it perceives through itself—these philosophers, viz., the Academics, have chattered a lot against the bodily senses, but they have never been able to cast doubt on those most certain perceptions of true things, which the mind grasps through itself, such as the one I have mentioned 'I

know that I am alive'.[121]

This citation occurs in a context in which Ockham has already settled, to his own satisfaction, the issue of whether we have intuitive cognitions of physical objects and is trying to persuade us that we have them of our own mental acts as well. He does not comment at all on Augustine's mention of Academic scepticism with regard to the senses, but focuses entirely on the latter's positive claim about our non-sensory knowledge. Ockham's neglect of the Academics' arguments could be explained in a number of ways: it could be said either (a) that Ockham was simply ignorant of the considerations raised by the Academics; or (b) that while familiar with them, he failed to recognize their legitimate application to his own theory; or (c) that while familiar with them, he realized their irrelevance to his project of showing that we can have knowledge that is free from doubt and error. (a) seems unlikely. After all, the above quote from Augustine comes from a chapter in which Academic scepticism is the principal topic under discussion. It is, of course, possible that Ockham had not studied Augustine's discussion carefully. But this seems implausible, in view of Ockham's frequent appeal to *On the Trinity*. Further, Ockham shows himself to be very familiar with Scotus's *Ordinatio* and could have become acquainted with the Academics' views by reading Scotus's critique in Book I, d.3, p.1, q.4. It is true that Ockham does not refer to this discussion anywhere in the Prologue or first three distinctions of his own commentary on the *Sentences*. But he cites so many adjacent questions—including every other question in distinction 3, parts 1, 2, and 3—that it would be very strange if he had failed to study this one.[122] Likewise, he frequently refers to Henry's *Summae quaestionum ordinariarum*, and it is therefore conceivable that he would have read Henry's discussion of the possibility of human knowledge, although I have not found a place in which Ockham

121. *Ord.* I, Prologue, q.1, (OTh I, 43).

122. In particular, Ockham cites *Ordinatio* I, d.1, p.1, q.1, 2; p.2, q.1; d.2, p.1, q.1–2, 3; p.2, q.1–4; d.3, p.1, q.1–2, 3; p.2, q.u; p.3, q.1–4.

explicitly cites any part of it. These considerations strongly suggest, although they do not conclusively prove, that Ockham would have been familiar with the views and arguments of the Academics. Given Ockham's usual shrewdness, (b) would have plausibility only if it were thought that Ockham had had to dispatch these issues in a hurry. But it is known that he revised the Prologue and Book I of his *Sentence* commentary at least once before their publication, and his most extensive discussion of sensory illusion was inserted at d.27, q.3 during the course of these revisions.[123] In any case, he returns to these matters in the *Quodlibeta*, which is a later work. Again, if the thrust of the Academics' arguments had been initially obscure to him, a reading of the above mentioned passages from Augustine, Henry of Ghent, or Duns Scotus would surely have clarified the matter for him. The most likely of the three hypotheses is that Ockham did understand the Academics' project and concurred with Scotus's assessment of it.

(13.3) As for Ockham's lengthy discussion of sensory illusion at d.27, q.3, it focuses entirely on refuting Peter Aureol's account. The latter had insisted that what appears must be *something*, even in sensory illusion. But while some philosophers have identified what appears with a sense datum and others with a false proposition that appears true, Aureol insists that it is the thing and its properties that appear. And if either or both do not really exist but are merely apparent, then they will have a non-real mode of existence, which he variously labels "intensional," "seen," or "adjudged" existence.[124] Ockham argues at some length that Aureol's theory is pernicious because positing such unreal entities would destroy direct realism in epistemology and lead to ontological paradox besides.[125] He insists, by contrast, that in sensory illusion it is

123. G. Gál, "Gualteri de Chatton et Guillelmi de Ockham Controversia de Natura Conceptus Universalis," *Franciscan Studies* N.S. XXVII (1967): 191–212, especially 192–99.

124. *Scriptum super primum Sententiarum*, ed. Eligius Buytaert. Cf. I, d.3, sec.14, (II, 696–98).

125. *Ord.* I, d.27, q.3, (OTh IV, 243–44).

often the case that nothing appears; rather it involves the existence in a perceiver of certain acts of apprehension that are apt to produce some of the same effects in that perceiver as veridical sensations do. Ockham does not elaborate on what precisely these effects are in the lower animals that possess sensation only; but in human perceivers, they include mistaken judgment.[126] For example, when a stick that is partly in and partly out of water appears broken, there is no breakage in real or apparent existence,

> ...although the proposition 'The stick is broken' is believed true by the intellect and in the senses there is an apprehension or apprehensions that has (have) enough power (*aequivalens*) to cause in the intellect beliefs of the sort a sensation would cause if the stick were out of the water and appeared broken...[127]

Ockham's primary concern throughout the discussion remains the ontological one of assuring us that particulars never have a non-real mode of existence of the sort Aureol assumes. And although he at one point admits that "deception occurs in many ways" and may sometimes be the result of the clever placement of mirrors by demons,[128] Ockham never worries about how we could infallibly discriminate sensory illusions from veridical acts whose effects they mimic; nor does he here draw back from his conviction that sensory awareness is the beginning of all human knowledge in this life. Similarly, while he insists that imagination may have the same objects under the same aspects as sensation, he never asks how we tell the one from the other.[129] He gives the same account of the source of our knowledge in *Quodlibeta* VI, q.6, where he is defending the logical possibility of intuitive cognitions of nonexistents, again without any concern about the sceptical implications of his remarks.[130]

(13.4) Finally, we must reexamine the context in *Quodlibeta*

126. *Ibid.*, (OTh IV, 243–251).
127. *Ibid.*, (OTh IV, 247).
128. *Ibid.*, (OTh IV, 250); cf. *Rep.* II, q.16, (OTh V, 370).
129. *Ibid.*, III, q.3, (OTh VI, 114–124).
130. (OTh IX, 605–606).

V, q.5 of Ockham's famous admission that it is logically possible for God to deceive us. In this question, Ockham defends his distinction between intuitive and abstractive cognition against four objections, the first three of which are raised by Walter Chatton in his commentary on the *Sentences*, Prologue, q.2[131] and the fourth posed by a source unknown to me. Of these, the first and fourth attempt to reduce Ockham's distinction to an absurdity on the ground that if it is accepted, it will be impossible for God to use certain methods to deceive us. Thus, Chatton argues,

> ...Given this distinction, it follows that God would not be able to cause in us an act of cognition through which it would apppear to us that a thing that is absent is present—which is false, since this does not include a contradiction. Proof of the premiss: that cognition is not intuitive, according to you, since through an intuitive cognition a thing appears to be when it is and not to be when it is not. It is not abstractive either, since a thing does not appear to be present through an abstractive cognition.[132]

Ockham replies that his distinction does not force us to deny God the power to bring about any logically possible state of affairs. For Ockham has never said that a thing can not appear to be through an abstractive cognition; rather he has defined abstractive cognition as that by which one cannot have an *evident* cognition that a thing exists or does not exist. And it is in this connection that he maintains that while "...God cannot cause in us such a cognition through which it evidently appears to us that a thing is present when it is absent, since that involves a contradiction,"

> ...Nevertheless, God can cause a creditive act through which I believe that a thing that is absent is present. And I maintain that the creditive cognition will be abstractive, not intuitive...[133]

131. See Jeremiah O'Callaghan, "The Second Question of the Prologue to Walter Catton's Commentary on the *Sentences*: On Intuitive and Abstractive Knowledge," in *Nine Medieval Thinkers*, ed. J. Reginald O'Donnell, 233–269; cf. especially article 3, 246–47.

132. *Quodl.* V, q.5, (OTh IX, 496); cf. O'Callaghan, *op. cit.*, 246.

133. *Quodl.* V, q.5, (OTh IX, 498).

Again, someone objects that

> ...given this [distinction], God would not be able to cause evident assent to the contingent proposition 'this Whiteness exists' when whiteness does not exist, since the vision of whiteness causes evident assent to the proposition 'This whiteness does not exist' and the intellect would seem to assent to the opposite...[134]

But Ockham replies that while God cannot deceive us by producing "evident assent to the contingent proposition 'This whiteness exists' when the whiteness does not exist, because a contradiction follows from this..."

> ...Nevertheless, I grant that God can produce assent of the same kind as that evident assent to the contingent proposition 'This whiteness exists' when it does not exist. But the former assent is not evident because things are not the way in which the proposition assented to implies they are.[135]

Thus, in these interchanges, the logical possibility that God should deceive us is presented by Ockham's opponents as a truth it would be absurd to deny, not as a forbidden consequence that it would be scandalous to admit. And Walter Chatton, earlier in the cited question, opines that our experience of certainty in this life is not so great as to rule out the possibility that God could cause us to judge things to be otherwise than they are.[136] It would be wrong to picture Ockham as driven to admit this possibility only in the face of objections by others. For there is a little noticed passage in *Reportatio* IV, q.14, where—without this kind of pressure—Ockham grants that God could cause in us a habit that would incline us to assent to certain false propositions about the past.[137] The most likely ex-

134. *Ibid.*, (OTh IX, 497).

135. *Ibid.*, (OTh IX, 499).

136. O'Callaghan, *op. cit.*, 243: "In reply to the second, I also grant the conclusion that we do not have so much certainty that God, who can cause a vision without the thing's being present, could not cause in us an act by which we would judge things to be otherwise than they are..."

137. Here, too, Ockham is responding to an objection: "Further, God can

planation is that Ockham drew the same conclusion from the Condemnation of 1277 as his contemporaries did, and saw no problem in granting God the power to deceive us.

In conclusion, I have found no positive reason to suppose that Ockham was interested in showing that Academic certainty is possible for human beings, and the above four considerations constitute powerful evidence against that hypothesis. Instead, I am inclined to believe that Ockham was familiar with the views of the Academics, whether by reading Augustine, Henry of Ghent, Duns Scotus, or some other author. But he judged, as Scotus did, that no reasonable person would adopt the Academics' standard of certainty. For if, as Ockham joined others in admitting, it is logically possible that God should deceive us, the Academics' demand for infallible signs by means of which to distinguish genuine from merely apparent instances of knowledge cannot be satisfied. Rejecting their standard, Ockham proceeds to construct a theory according to which we can have knowledge that is free from doubt and error and that ultimately has its causal origin in sensory intuitive cognitions. And he defines 'evident cognition' and 'intuitive cognition' in such a way that it is impossible—even leaving the possibility that God should deceive us aside—that there should be any infallible introspective marks by means of which we could distinguish them from imposters. Nevertheless, Ockham does not explicitly discuss these points, because they do not expose in this theory a failure to do what he intended to do: it is no objection to a theory that attempts to show how we can have certain knowledge according to one standard, that it does not succeed in showing how we can have certain knowledge according to another standard—especially where the latter is a standard that no reasonable person would accept.

cause this habit before any act of understanding just as [he can cause it before any] species. Therefore, the habit does not incline one to any past act..." (OTh VII, 311). But the objection is not presented as a *reductio*, which presents the possibility that God should deceive us as one that must be preserved.

## 14. ADAM WODEHAM'S VIEW

Closer to appreciating the epistemological consequences of God's agreed-upon ability to deceive us as Ockham's secretary, Adam Wodeham. Like Ockham and against Aureol and Chatton, Wodeham insisted that intuitive and abstractive cognitions were to be distinguished, not in terms of some introspective feature of how the object is presented, but in terms of the judgments they are apt to cause. But he followed Chatton in rejecting Ockham's contention that while the intuitive cognition together with the existing and present object suffice naturally to produce a judgment of existence, the intuitive cognition acting alone is naturally apt to produce a judgment of nonexistence. Wodeham argues first that it seems unlikely that a vision of the white Socrates would cause a judgment that Socrates is not white; it is a vision of black Socrates that does that.[138] Again, if the vision of white Socrates naturally has the power to act alone to produce the judgment 'Socrates is not white', it will have and exercise that power even when Socrates is present. Hence, in such cases we would be caused to judge both that Socrates is and that he is not white—which we are not.[139] Again, God could preserve the vision of white Socrates in the presence of white Socrates while suspending the latter's natural power to act together with the former to produce the judgment 'Socrates is white'. If He did, the intuitive cognition of white Socrates would act naturally to cause the false judgment 'Socrates is not white'—which is impossible on Ockham's definition.[140] If Wodeham had confronted Ockham with these arguments, he would not have won his teacher over. To the first, Ockham would agree that visions of white Socrates do not ordinarily produce judgments that Socrates is not white; but this is irrelevant since there are no naturally produced or conserved

138. *Quaestiones in I librum Sententiarum*, Prologue, q.2, Gál's transcription, sec.24, from Cambridge, Gonville and Caius, Cod.281/674, fol.109va.

139. Q.2, sec.26, fol.109va.

140. Q.2, sec.27, fol.109va.

intuitive cognitions of nonexistent or non-present objects. To the second, that the presence of the white Socrates is an obstacle that prevents the vision from exercising its natural power to cause the judgment 'Socrates is not white'. To the third, that God can conserve a vision of white Socrates with the power to cause the judgment 'Socrates is not white'; but in such circumstances, the cognition will not count as intuitive. Thinking his arguments sound, however, Wodeham defined an intuitive cognition as "a noncomplex act which is apt to cause evident assent to the truth of a contingent proposition about the present" and insisted with Ockham that it "naturally requires the existence and presence" of its object, while "any other simple and proper or even common apprehension is abstractive."[141] He then explains that evident assent is assent to an evident proposition and notes that 'evident proposition' can be understood three ways: (a) *The first way,* a proposition is evident, if and only if (i) things cannot not appear really to be the way it signifies, although (ii) it is possible that one should be convinced by reason and/or experience that they are not that way. For example, someone who sees a stick that is partially submerged in water may form the mental proposition 'The stick in the water is broken', which has the intuitive cognition of the stick and the water among its terms. Under such circumstances, Wodeham says, the proposition cannot help but appear true, even though experience and arguments (perhaps of the sort Scotus proposes; see section 11 above) will convince most people that it is false.[142] By "appearing true," Adam means something in between mere apprehension (we may entertain the proposition 'A man is a donkey', but it does not for that reason appear true) and assent, and he takes it for granted that we will all recognize the difference he has in mind.[143] (b) *The second way*, a proposition is said to be evident, if and only if (i) things cannot not appear really to be the way it signifies, and (iii) things cannot not be as they appear.[144] The new condition (iii) is ambiguous between

141. Q.2, sec.13, fol.109rb.
142. Q.6, sec.66, fol.126ra.
143. Q.6, sec.71, fol.126va.
144. Q.6, sec.66, fol.126ra.

(iii') when the proposition signifies, things cannot not be the way it signifies them to be,

and

(iii'') even if the proposition did not signify, things could not not be as it signifies them to be.

Apparently focussing on (iii''), Wodeham at first suggests that "perhaps every proposition that is evident the second way and categorically signifies that a thing exists, is necessary."[145] But later on, he admits that where the mental propositions 'I am', 'I live' and 'I understand' are formulated from intuitive cognitions, they are evident the second way, presumably in that they satisfy (i) and (iii').[146] (d) *The third way*, a proposition is evident if and only if (i) things cannot not appear really to be the way it signifies, (iii) things cannot not be as they appear, and (iv) given the existing divine ordinances, the existence of the proposition in the mind is apt to necessitate the intellect's assent that things are the way it signifies them to be.[147] Wodeham says that propositions known *per se*, perfect syllogisms, and many rules of inference are evident in this third way.

Having laid down these distinctions, Wodeham considers the objection that

> according to what was said, we could never have evident judgment that things really are the way a true contingent proposition that categorically signifies the existence of an extramental thing, signifies them to be, since no judgment of this kind can be caused by a complex evident the third way...[148]

He makes the following, startling reply:

> ...I grant what is inferred regarding the judgment corresponding to a

145. *Ibid.*
146. Q.6, sec.76, fol.127ra.
147. Q.6, sec.66, fol.126ra–rb.
148. Q.6, sec.68, fol.126va.

> contingent truth that signifies an extramental thing. For no such judgment is absolutely evident, by an evidence that excludes every possible doubt. For it is compatible with God's or nature's causing any cognition or possible judgment in the mind that, by God's absolute power, things are not the way the intuitive apprehension signifies them to be. And I grant that every intellect that can be created is of a diminished nature in the sense that it can be deceived about any contingent truth about extramental things, if it categorically asserts that they are or are not thus.[149]

They are not evident the third way apparently because they do not satisfy either condition (iii)—since God could produce or conserve the proposition in the mind, while bringing it about that mind-independent things are not the way it signifies them to be—or condition (iv)—since reason, informing us of the possibility of divine deception, can forestall assent.[150] In another section, he reconsiders his admission that such contingent categorical propositions about mind-independent physical objects are evident even in the first way, when he declares that

> ...Intuitive cognition is not that by virtue of which an evident judgment can be had in the first way unless it is simultaneously evident that God is not conserving the vision miraculously, while annihilating its subject or making it absent. Whether or not it could be [simultaneously evident that God is not doing either of these things], I don't care now. But unless it is, doubt with respect to a contingent truth is not excluded...[151]

Earlier in q.2, Wodeham implies that, in his opinion, there is no way that God Himself could remove this doubt from us:

> Against Ockham's claims and in behalf of my own reply, I argue as follows: for it would not be possible to have any certain judgment that a thing which exists exists or that it does not exist when it does not exist. Therefore, it would be contradictory for God to make us certain about a contingent truth. Proof of the inference: just as God could conserve the vision without the existence of the object, so also He could

149. Q.6, sec.76, fol.127ra.
150. Cf. q.6, sec.77, fol.127ra; sec.101, fol.128rb.
151. Q.6, sec.78, fol.127ra.

> conserve any other mental cognition, whether noncomplex or complex without its existing. Therefore, *He could not make us certain by any mental cognition. I grant that there is no cognition by means of which we can be so certain that we could not be deceived by Him, if He wished it.*[152]

It is clear from the context that Adam thinks of himself as opposing Ockham on this point. Likewise, in q.6, Adam agrees that his position allows no contingent categorical propositions about mind-independent physical objects to be evident,

> ...although Ockham would have to say otherwise. Nor is this surprising, since he supposes that through an intuitive cognition of whiteness it is evidently known that it is when it is and is not when it is not. Therefore, he has to assume that infallible judgment regarding such propositions can be had. But I do not, because I assume that whether or not whiteness exists, the vision of it always inclines one uniformly to a judgment or proposition formed from that vision.[153]

What goes for propositions about mind-independent physical objects, also applies to mental propositions about one's own mental acts formulated from abstractive rather than from intuitive cognitions.[154] Apparently Adam assumes that it is impossible for mental propositions formulated from intuitive cognitions such as 'I exist' or 'I live', to exist and be false, since he allows that they are evident the second way. But since the soul is a distinct created thing from such mental acts, it is not clear why God could not produce or conserve the latter, while destroying the former.

Where mind-independent physical objects are concerned, Wodeham thinks, the most we can be certain about is conditional propositions such as 'This whiteness exists unless God is deceiving me',[155] which Wodeham sometimes allows are

152. Q.2, sec.30, fol.109vb, (italics mine).
153. Q.6, sec.77, fol.127ra.
154. Q.6, sec.76, fol.127ra.
155. Cf. q.2, sec.46, fol.110rb; sec.29, fol.109vb; q.6, sec.77–78, fol.127ra.

evident in the third way[156] and sometimes the second way.[157] Perhaps he does not mean to say that every conditional proposition whose consequent is a categorical proposition formed from intuitive cognitions of physical objects is evident in the second and/or third ways. He may wish to retain the ordinary distinction between propositions such as 'The stick in the water is broken' which regularly appear true but usually are judged false on the basis of reason and experience, and those such as 'This whiteness exists' which both appear and are usually judged true, by saying that the conditional 'The stick in the water is broken unless God is deceiving me' is evident the first way, while 'This whiteness exists unless God is deceiving me' is evident the second and/or third way. And Wodeham argues that even these would not be evident, if it were not naturally impossible for an intuitive cognition to be either naturally produced or naturally conserved without its object.[158]

## 15. NICOLAS OF AUTRECOURT AND THE ACADEMICS

If Ockham was insensitive to and/or uninterested in any sceptical consequences that might be inferred from the logical possibility that we are deceived, his younger contemporary Nicolas of Autrecourt was not. In his two surviving letters to Bernard of Arezzo, as well as his reply to a certain Aegidius who undertook Bernard's defense,[159] Nicolas patiently draws these conclusions, one after another, from Bernard's claims and exhibits the strength of these inferences by pointing out the inadequacy of various objections made to them.

Even so, one must be cautious about seeing Nicolas as the

156. Q.6, sec.77, fol.127ra; sec.101, fol.128rb.

157. Q.6, sec.78, fol.127ra.

158. Q.3, fol.113ra–115rb.

159. Edited together with the letter of Aegidius to Nicolas by Joseph Lappe in *Nicolaus von Autrecourt: Sein Leben, seine Philosophie, seine Schriften*, in *Beiträge zur Geschichte der Philosophie des Mittelalters*, Band VI, Heft 2, (Münster, 1908). I have translated from Lappe's text, to which the page references will be given.

medieval precursor of Descartes or Hume. For his arguments do not go so far as theirs. And it is unclear whether he really accepted them or endorsed their sceptical conclusions. In his first letter to Bernard, Nicolas explicitly regards his demonstration that Bernard's view has sceptical consequences for our knowledge of the physical world and of our own mental acts, as a *reductio ad absurdum* of the latter's position. He summarizes his reaction, commenting

> ...as it seems to me those absurdities follow from your position that follow from the position of the Academics. And therefore, in order to avoid such absurdities, I have defended in disputations held in the court of the Sorbonne the claim that I do have certain and evident cognition of the objects of the five senses and of my own acts.[160]

Nicolas here explicitly regards the position of the Academics and their sceptical conclusions as false and absurd. Further, Nicolas's posture in the greetings and closings of all of the letters is quite unaggressive. He reports that these arguments and objections have occurred to him and that he has been unable to see anything wrong with them. He invites a reply that will show how they are mistaken and thereby bring him and others to a clearer perception of the truth. In one, he even promises, "I will not be obstinate in fleeing from the truth for which I gasp with my whole force of mind."[161] Such remarks might be dismissed as conventional modesty and flattery, but it is conceivable that they are sincere. A diagnosis of Nicolas's true attitude is made the more difficult by the fact that many of the conclusions he deduces against Bernard in these and seven other letters and maintained in his *Sentence*-commentary and several other works, were condemned by the Church. Nicolas submitted to this judgment fully, explaining that he had advanced these conclusions against Bernard only within a certain framework of debate, which they had mutually agreed to. And in Paris, on November 25, 1347, he publicly recanted the condemned theses and burned his writings. As a result of this dark incident

160. 1st Letter, 6*, lines 12–16.
161. 2nd Letter, 14*, lines 1–3.

in intellectual history, it is impossible to compare what he says in the surviving letters with his teaching in more substantial works. It is true that the official lists of condemned theses provide tantalizing clues as to what the lost works may have contained. But since such documents often wrenched statements out of their contexts and distorted their author's intended meaning, they are not reliable guides to Nicolas's real opinions.[162] Whether or not Nicolas held the views he develops in his letters to Bernard, the position merits examination in part for the contrast it provides to those endorsed by Henry of Ghent, Scotus, and Ockham.

## 16. THE PROPOSED CRITERION OF CERTAIN AND EVIDENT KNOWLEDGE

Nicolas begins his second letter to Bernard by affirming that "all of the certainty that we have" by the natural light[163] "is traced back to the principle"[164] that "contradictories cannot be simultaneously true."[165] The truth of the law of noncontradiction is assured by the fact that "no true law restricts or can contradict it"[166] and that "no power can bring it about that contradictories are simultaneously true."[167] It is the basis of our certainty in that the logical impossibility of error is a necessary condition of certain and evident cognition. Nicolas proposes the following inference:

> It is possible, without any consequent contradiction, that it appear to one that such-and-such is the case and nevertheless that it not be the case.

162. For some cautious speculation as to the outlines of his philosophy, see Lappe's discussion, *op. cit.*, 8–31, and Julius Weinberg's book, *Nicolaus of Autrecourt: A Study in Fourteenth-Century Thought*, (Princeton, 1948).

163. Lappe, *op. cit.*, 2nd Letter, 7*, lines 29, 32; 8*, lines 15–17.

164. 2nd Letter, 7*, lines 5–6.

165. 2nd Letter, 6*, lines 32–33.

166. 2nd Letter, 7*, lines 30–31.

167. 2nd Letter, 7*, lines 34–35.

> Therefore, one does not have certain and evident cognition that such-and-such is the case.

And he comments that if I claimed to be certain about something and yet granted the premiss of the above inference, I should have to grant the conclusion and retract my claim to be certain on that occasion.[168] Thus, I shall be said to have certain and non-inferential knowledge of a proposition $p$ on a given occasion, only if it is logically impossible that I should be mistaken in believing $p$ on that occasion. And I can have certain but inferential knowledge of $q$ on the basis of $p$ only if the inference pattern by means of which I derive $q$ from $p$ is traced back, immediately or mediately, to the principle of noncontradiction—i.e., only if it is a contradiction that the premiss(es) should be true and the conclusion false.[169]

Beginning this way, Nicolas is already taking for granted something that Descartes and Hume thought could be questioned: viz., the reliability of reason. If reason is unreliable, then there is no assurance that by strictly adhering to the laws of logic and using only those inference patterns that are based on the principle of noncontradiction, we will not be led to contradictory results. That is, there is no certainty that the principle of noncontradiction will not reduce itself to an absurdity and thereby show itself to be false. When Nicolas assigns this principle axiomatic status, he is thereby refusing to entertain the possibility that reason is unreliable. Further, he explicitly denies what Descartes is thought to have asserted in his "Letter to Mersenne"—that God could bring it about that contradictories are simultaneously true.[170]

168. 2nd Letter, 7*. lines 5–19.

169. 2nd Letter, 8*, lines 23–28, corollary 4.

170. In explaining himself to the church authorities, Nicolas says that "quando magister Bernardus predictus et ego debuissemus disputare, concordavimus ad invicem disputando conferre de primo consensu omnium principio, posito a philosopho IIIo *Metaphysice*, quod est: 'Impossibile est aliquid eidem rei inesse et non inesse', loquendo de gradu evidentie qui est in lumine naturali strictissimus. Istis suppositis dixi in predictis epistolis explicite, ut tunc dicebam causa collationis..." (Appendix, 35*, lines 17–25).

According to the above proposed criterion, the logical impossibility of error is a *necessary* condition of certain and evident knowledge. He does not explicitly say that it is also a sufficient condition. On the other hand, he does not here mention any other necessary condition. And when he repeats, in Corollary 3, that "apart from the certainty of faith, there is no other certainty than the certainty of the first principle or what can be traced back to the first principle,"[171] he seems to imply that we are certain regarding the first principle and what can be traced back to it. If he intends it to be a sufficient condition, then it will follow, according to this criterion that we have certain knowledge of any necessarily true proposition that we believe. For since it is contradictory to suppose that such propositions are false, it is likewise contradictory to suppose that they appear to us to be true and yet are false. Thus, if the logical impossibility of error is regarded as a sufficient condition of certainty, it will follow on this criterion as on Scotus's, that we can have certain knowledge of analytic propositions and logical rules, even if there are no infallible signs by means of which we can distinguish cases in which we believe genuine necessary truths from those in which we believe propositions that merely appear to be necessary. The resultant criterion of certain and evident knowledge would thus be less stringent than that of the Academics, where knowledge of necessary truths is concerned. Nevertheless, it would not be simply equivalent to Scotus's or to Henry's criterion of knowledge in the broad sense. For where contingent propositions are concerned, the fact that a true proposition is believed and not doubted, does not imply that it is logically impossible that the belief should be mistaken, but only that the belief is not mistaken. And by the standard Nicolas sets forth, belief in a true contingent proposition would count as knowledge only if it were logically impossible that it should be mistaken.

In any case, Nicolas does not make much use of the positive claim that the logical impossibility of error might be a sufficient condition of certainty. Instead, he concentrates on using the

171. 2nd Letter, 8*, lines 16–17.

fact that it is a necessary condition as a negative test to show that, on Bernard's assumptions, we do not have certain and evident knowledge of many things that we normally suppose ourselves to be certain about. As a preamble to this critique, Nicolas draws some corollaries from his claim that an inference is certain and evident only if it is logically impossible that its premiss(es) be true and its conclusion false. He concludes first that

(C) In every inference that is immediately derived from the first principle, what the consequent signifies must be really the same as what the whole or a part of the antecedent signifies.

Otherwise, he says, it is clear that the antecedent could be true without the consequent being true.[172] 'Socrates is a man; therefore, Socrates is a man' and 'Socrates is a man; therefore, Socrates is an animal' are certain and evident inferences, and in the former the consequent signifies the whole, in the latter a part, of what the antecedent signifies. In advancing (C), Nicolas must be restricting his attention to inferences by means of which, given certain and evident knowledge of the premisses, one might come to have certain and evident knowledge of the conclusion, and ignoring paradoxical inferences—e.g., 'A triangle has four sides; therefore the moon is made of green cheese' and 'The moon is made of green cheese; therefore either God exists or it is not the case that God exists'—which hold good merely by virtue of having a contradictory premiss or premisses or a necessary conclusion. Given (C), he further infers

(D) From the fact that one thing is, it cannot be inferred with evidence (an evidence that is traced back to the certainty of the first principle) that another thing is.[173]

172. 2nd Letter, 8*, lines 29–34; cf. 9*, lines 21–24, and the Reply to Aegidius, 25*, lines 4–12.

173. 2nd Letter, 9*, lines 15–19; Reply to Aegidius, 25*, lines 4–7.

'Socrates exists; therefore Plato exists' is not a certain and evident inference. For the existence of Plato is neither the whole nor a part of what is signified by 'Socrates exists'. To be sure, an inference such as 'The father of Plato exists; therefore Plato exists (or existed)' is certain and evident. But Nicolas explains that such an inference would not constitute a counterexample to (D). Suppose that Socrates is the father of Plato. 'Father of Plato' is what Ockham would call a connotative term (see Part Two, chapter 10 above) which signifies Socrates directly and Plato obliquely. Hence, in asserting the existence of Socrates under this description one is simultaneously implying the existence, past or present, of his son Plato. And 'Plato exists (or existed)' does, therefore, signify part of what 'The father of Plato exists' signifies. Similarly for other such examples.[174] Where both premiss and conclusion are existential statements, and where the subject term of each is an absolute rather than a connotative term, Nicolas maintains, (D) holds. Ockham and many others would not have accepted (D) in its general form; since they held that a proposition of the form '*x* exists', where a proper name, demonstrative, or rigid designator is substituted for '*x*', entails the proposition 'God exists'. Nicolas takes no note of such an exception, however, and wields (D) to generate sceptical conclusions from Bernard's assumptions.

## 17. NO CERTAIN AND EVIDENT KNOWLEDGE OF OBJECTS INDEPENDENT OF OUR OWN MINDS

Prima facie, it would seem that our best source of certain and evident knowledge of the existence of a given thing would be an act of apprehending the thing itself. Nicolas argues that where things independent of our own minds are concerned, Bernard's assumptions rule out this avenue. Bernard apparently regarded clear and intuitive cognitions as the most perfect and clear of our acts of apprehension. Nevertheless, he allowed that

174. Reply to Aegidius, 25*–28*.

(E) Clear and intuitive cognition is that through which we judge that a thing is, whether it is or not;

(F) 'The object does not exist; therefore it does not seem to exist' and 'This object seems to exist; therefore it exists' are not good inferences;

(G) An intuitive cognition of a thing does not necessarily require the existence of the thing.[175]

Obviously from (E), Bernard would admit that it is logically possible that I should have an intuitive cognition of $x$ and thereby judge that $x$ exists, even though $x$ does not exist. Presumably, if this is true of judgments of existence caused by our most perfect acts of apprehension, it is true of those based on less perfect acts of apprehension as well. Hence, however I may apprehend the object, the observation in (F) holds. Nicolas thus concludes that from Bernard's point of view

(H) Every appearance that we have concerning the existence of objects independent of our own minds can be false.

Further, since error is logically possible with respect to all of our judgments of existence,

(J) We cannot be certain, in the natural light, when our appearances concerning the existence of objects independent of our own minds are true or false.[176]

Both Scotus and Ockham would agree with (F). Where $x$ is some object independent of our minds, it does not follow from the fact that I am aware of $x$ and judge that $x$ exists, that $x$ exists. For my act of apprehenson and act of judgment are, by hypothesis, things distinct from $x$. By (D), it follows that one cannot infer the existence of the latter from the existence of the

175. 1st Letter, 2*, lines 7–18.
176. 1st Letter, 2*, line 19–3*, line 2.

former with evidence and certainty. It is obvious from (E), however, that Bernard defines 'intuitive cognition' differently from both Scotus and Ockham. Scotus defines 'intuitive cognition' as 'an act of apprehension which is of the object as existing and present and which is caused by the existing and present object'. Accordingly, for him, 'intuitive cognition' is a connotative term and (D) does not exclude the inference 'I have an intuitive cognition of $x$; therefore $x$ exists' as evident. Ockham likewise regards it as true by definition that intuitive cognitions cause only true judgments, and hence would pronounce 'I have an intuitive cognition of $x$ and am thereby caused to judge that $x$ exists; therefore, $x$ exists' an evident inference.

Neither Bernard nor any of his medieval predecessors was a phenomenalist. Hence, they all regarded the objects of the five senses—the so-called sensible qualities such as colors, flavors, odors, textures, temperatures, and sounds—as things independent of our minds. Thus, applying (F), Nicolas concludes that Bernard would find 'Whiteness seems to exist; therefore, whiteness exists' fallacious.[177] And applying (J), he derives

(K) We cannot have certain and evident knowledge of the existence of the objects of the five senses.[178]

Nicolas considers that Bernard might try to avoid these consequences, by maintaining that even though, for example

177. 1st Letter, 3*, lines 5–6.

178. 1st Letter, 3*, lines 2–3; 4*, lines 19–20. In defending against Nicolas's arguments, Aegidius suggests that in view of Nicolas's acceptance of (D) and his claim that we do have certain knowledge of the objects of the five senses, "it is necessary that an intuitive cognition is the same as the thing cognized, since otherwise this would not follow: a thing appears in intuitive cognition; therefore the thing exists..." (Letter of Aegidius to Nicolas, 18*, lines 28–30). If Nicolas had identified colors, odors, flavours, etc. with our intuitive cognitions of them, he would have anticipated the views of George Berkeley. Nicolas does not draw this conclusion anywhere in the letters, however. And while (D) was one of the condemned theses which he recanted (see Lappe's Appendix, 31*, lines 11–15), the view that sensible qualities are to be identified with intuitive cognitions of them was not.

'Whiteness seems to exist; therefore whiteness exists' is fallacious, 'Whiteness seems to exist and the vision of whiteness is not caused or conserved supernaturally, but is produced by natural causes alone, together with the general influence of the first agent; therefore, whiteness exists' does hold good. Nicolas responds that to regard the latter inference as certain and evident, one must assume that it is logically impossible that anything other than God should cause us to have a vision of whiteness and to judge that whiteness exists when no whiteness exists. And he asks rhetorically how Bernard has certain and evident knowledge that the latter is the case.[179]

Again, Nicolas anticipates, Bernard might insist that he has certain and evident knowledge that only God can cause intuitive cognitions of nonexistents that are clear in a certain degree, and know in addition that it was not supernaturally caused, we could evidently infer that it was an intuitive cognition of an existing, not a nonexistent thing. Nicolas's reaction is that granting Bernard such an inference, he would like to know how Bernard determines with certainty and evidence on a given occasion that a particular vision has or has not reached the requisite degree of clarity?[180] Alternatively, one might ask how, given that a cognition is recognized as having the requisite degree of clarity, we determine whether it is a naturally caused intuitive cognition of an existing thing rather than a supernaturally caused cognition of a nonexistent thing? The suggestion is that even if it were allowed that the inference is evident, we would still not be in a position to have certain and evident knowledge of its premisses.

## 18. NO CERTAIN AND EVIDENT OR EVEN PROBABLE KNOWLEDGE OF SUBSTANCES OTHER THAN OUR OWN MINDS

Conclusion (J) applies generally to all objects existing in-

179. 1st Letter, 3*, line 7–4*, line 12.
180. 1st Letter, 4*, lines 13–17.

dependently of our own minds, and hence to Aristotelian substances as well as to Aristotelian accidents. Nicolas does not explicitly apply it to substances other than our minds apparently because they "do not appear intuitively." If they did, he suggests, then even "the uneducated would know that such things exist"—which they do not. It takes philosophical arguments to bring one to the conclusion that such Aristotelian substances exist.[181]

Scotus and Ockham would agree that human beings (with the exception of a few saintly persons) do not have intuitive cognitions of God or the angels in this life. They would doubtless also concur that we do not have intuitive cognitions of the mental substances of other human beings. And neither allows us intuitive cognitions of material substances in this life (see Part Three, chapter 13 above).

(J) tells us that even if we could have intuitive cognitions of material substances, that would not enable us to have certain and evident knowledge of their existence by Nicolas's standard. Without such direct awareness of them, the only way we could hope to learn of their contingent existence is by inferring it from the existence of sensible qualities of which we do have intuitive cognitions. But we cannot acquire certain and evident knowledge of the existence of material substances this way for a double reason: first, as Nicolas has concluded in (K), we cannot have certain and evident knowledge of the existence of sensible qualities on the basis of apprehensions of them. And even if we could, (D) would not allow us certain and evident knowledge of the existence of something distinct from them on that basis. Nicolas writes,

> ...granted that there are all those things that appear in a piece of wood or in a stone before all discourse, it can be the case—without any contradiction—that there is no thing there that is called substance. For God can bring this about, when nevertheless He cannot bring it about that contradictories are simultaneously true. Therefore, it cannot be infer-

181. 2nd Letter, 12*, lines 25–26.

> red with evidence from these appearances, that any substance is there.[182]

Hence, it follows that

(L) We cannot have any certain and evident knowledge of the existence of material substances.

And this conclusion would tell as much against Scotus and Ockham as against Bernard.

Nicolas recognizes that the following objection might be made to his reasoning. Suppose that I know with certainty that whiteness exists. Since whiteness is an accident, I know with certainty that an accident exists. But, according to Aristotle's usage, 'accident' means 'something that exists in a subject', and 'substance' means 'the subject of contraries' and hence refers to that in which the accidents inhere. Hence, the inference 'Whiteness exists, therefore, there is a substance in which it exists' is certain and evident by virtue of the meanings of 'accident' and 'substance'.[183]

Nicolas replies that where the meanings of 'accident' and 'substance' are assigned in the above way,

> ...the inference is good. But when it is said that whiteness is an accident, the sense of the proposition is, according to the description assigned to the term 'accident' above, that whiteness is in a subject. I maintain that this is not evident either of itself or from experience...[184]

As we have seen, Ockham regularly uses the term 'accident' in such a way that 'An accident exists; therefore a substance exists' is not a formal inference. For he has insisted that certain qualities are really distinct from substances, and—partly motivated by the doctrine of Transubstantiation (see Part One,

182. Reply to Aegidius, 29*, line 29–30*, line 3; cf. 2nd Letter, 12*, lines 26–29 and 13*, lines 15–29.

183. Reply to Aegidius, 28*, lines 9–20.

184. Reply to Aegidius, 28*, lines 22–26.

chapters 6 and 8)—that it is logically possible for such qualitative things to exist without inhering in any substance at all. Hence, assuming that we could be certain that whiteness exists, we could be certain that whiteness is an accident in Ockham's sense. But we could not use such knowledge to infer the existence of any material substance.

Alternatively, one might try to avoid (L) by arguing that while 'An accident exists; therefore a substance exists' is not evident where 'accident' is taken this second way, 'An accident exists and God is not performing any miracles in this case; therefore a substance exists' is evident.

Nicolas refers us to his first letter for his reply. He would again point out that this second inference is evident, only if it is logically impossible that a creature should cause an accident to exist without inhering in any substance. This is not obviously true, and Nicolas would question how we can know with certainty that there is any logically possible producible state of affairs that can be brought about only by God.[185] He might have questioned further how we can know with certainty that God is not performing any miracles on any given occasion. Although he does not actually do so here, he apparently did, in his fifth letter to Bernard, offer arguments for the stronger conclusion that we cannot have any evident knowledge that anything other than God acts as an efficient cause, and this thesis was condemned.[186]

Of substances other than our own minds, material substances might have seemed prima facie the most accessible. If we cannot have certain and evident knowledge of their existence, a fortiori, Nicolas argues, we cannot have it of the others.[187] Hence,

(M) We cannot have certain and evident knowledge of the existence of any substance other than our own minds.

At this point in his second letter, Nicolas confesses that "although I do not hold the conclusion, yet I have an argument

185. Cf. 1st Letter, 3*, lines 28–34.
186. Appendix, 32*, lines 21–32.
187. 2nd Letter, 12*, lines 30–31.

that I do not know how to dissolve for proving that

(N) We cannot have any probable knowledge of the existence of substances other than our own minds."[188]

The argument rests on the assumption that

(O) No one has probable knowledge of some consequent by virtue of some antecedent, unless he has certain and evident knowledge of whether the consequent existed simultaneously with the antecedent at some time.[189]

For instance, assuming that "it was at some time evident to me that when I put my hand near the fire, I was hot," it can therefore be "probable for me that if I were now to put my hand near the fire, I would be hot." Given (O), together with (M), "it follows that we do not have even probable knowledge of the existence of substances other than our own minds."[190] Nicolas seems to have found (N) unpalatable himself. Having offered his argument, he repeats, "I do not hold the conclusion. May he [i.e. Bernard] dissolve the argument—certainly there is a way to do so."[191]

## 19. NO CERTAIN AND EVIDENT KNOWLEDGE OF OUR OWN PRESENT MENTAL ACTS

Having cast doubt on our ability to have certain and evident knowledge of objects independent of our own minds, Nicolas proceeds to extract the further conclusion that

(P) We cannot have certain and evident cognition of the existence of our own present mental acts

188. 2nd Letter, 13*, lines 3–5.
189. 2nd Letter, 13*, lines 6–8.
190. 2nd Letter, 13*, lines 15–16.
191. 2nd Letter, 13*, lines 16–18.

from Bernard's remarks. The argument that Nicolas offers exploits Bernard's claim that

(Q) Our intellect does not have any clear intuitive cognition of our own acts.[192]

Nicolas reasons that

> ...The intellect which is not certain of the existence of things concerning which it has a clearer cognition, will not be certain of those things concerning which it has a less clear cognition. (But as was said, you are not certain of the existence of objects concerning which you have a clearer cognition than you have concerning your own acts.) Therefore, etc.[193]

While this argument has *ad hominem* force against Bernard, he could not have avoided (P) simply by admitting that we can have clear intuitive cognitions of our own present mental acts. For according to Bernard, the act of apprehension by which we are aware of a given mental act is a distinct mental act.[194] Hence, it is logically possible that one should exist without the other. And assumptions (i)–(iii) could be brought to bear here in the same way as with our awareness of physical objects, to draw the sceptical conclusion stated in (P).

Further, insofar as Scotus and Ockham agree with Bernard in claiming that the act of apprehension by which we are aware of a given mental act is a distinct mental act (see chapter 13 above), they would be liable to the same objection. For it would be logically possible that the act of apprehension of a given mental act should exist while the apprehended act does not exist. Of course, in that case, the act of apprehension would not count as an intuitive cognition for Scotus; and if it caused a judgment of existence, it would not count as an intuitive cognition for Ockham either. But that is only to say that it is logically possible that any act of apprehension of a given mental act should not be

192. 1st Letter, 4*, lines 25–28.
193. 1st Letter, 4*, lines 29–33.
194. 1st Letter, 5*, lines 14–17.

an intuitive cognition and hence logically possible that the judgment caused by any act of apprehension be false. It follows, by the standard Nicolas is using, that no such judgment constitutes certain and evident knowledge of the existence of our own present mental acts.

If this reasoning is sound where our own present mental acts are concerned, it would seem to hold for our awareness of our mental substance as well. Nicolas does not say what sort of awareness Bernard thought we could have of our own minds. Ockham denies that we have intuitive cognitions of our own mental habits and dispositions and hesitates to say whether we can have intuitive cognitions of our own mental substances. But he does insist that the object of a mental act is always something distinct from the mental act (see chapter 13 above). And this admission, together with (D), would seem to preclude any certain and evident knowledge, according to Nicolas's standard.

## 20. NO CERTAIN AND EVIDENT KNOWLEDGE OF THE EXISTENCE OF EFFECTS FROM CAUSES OR VICE VERSA

Nicolas has argued from Bernard's assumptions that we cannot have any certain and evident knowledge of the existence of objects independent of our own minds, of our own present mental acts, or of substances other than our own minds. If we cannot have any certain and evident knowledge of the existence of any such things, the question of whether we could come to know the existence of one on the basis of another, or of whether we could recognize causal connections between them, would not arise. Nevertheless, in his Reply to Aegidius, Nicolas makes use of (D) to show that we cannot have certain and evident knowledge of the existence of causes on the basis of their effects, or vice versa. He writes that

> ...where all those things required for an effect are indicated, I will be able to sustain without any contradiction that could be inferred against me that the effect of this sort will not exist. Again, in the course of causes, I will be able to believe reasonably or at least doubt whether

> there is any agent whose action is necessarily required for such an effect to be posited. Consequently, I should not believe that when all these things have been posited, necessarily the effect should exist, by such a necessity that there is a contradiction in their being any other way, as is clear enough from what was said before.[195]

Suppose that in the natural course of things, *a*, *b*, and *c* are in fact causally necessary and sufficient for the existence of *d*. When Nicolas says that "when all of those things required for the effect are indicated, I will be able to sustain without any contradiction that could be inferred against me, that this sort of effect will not be"[196] and "consequently, I should not believe that when all those things are posited, necessarily the effect should exist, by such a necessity that there is a contradiction in their being the other way,"[197] he is merely pointing out that it is logically possible that *a, b,* and *c* should exist and *d* not exist. For cause and effect are distinct things, and by (D) the existence of the latter cannot be inferred by a certain and evident inference from the existence of the former. Nicolas evidently repeated this point in his fifth letter to Bernard, and it was condemned in that form by the Church authorities.[198] When Nicolas says that "in the course of causes, I will be able rationally to believe or at least doubt whether there is any agent whose action is necessarily required in order that such an effect should be posited,"[199] he seems to make the converse point: that it is logically possible that *d* should exist without *a*, *b*, and *c*. Hence, one cannot infer by a certain and evident inference from the existence of *d* that *a*, *b*, and *c* exist. Nicolas apparently takes both this point and the previous one to hold, whether *d* comes into existence for the first time or is eternal. If so, this second point seems tantamont to denying that the principle of sufficient reason for production in existence is a necessary truth—which would rob many cosmological arguments for the existence of God of their

195. 29*, lines 10–18.
196. 29*, lines 10–12.
197. 29*, lines 15–18.
198. Appendix, 32*, lines 33–36.
199. Reply to Aegidius, 29*, lines 13–15.

demonstrative force. Perhaps this is why the Church authorities condemned this thesis as "false, heretical, and erroneous."[200] Combining these two points, Nicolas is saying that given any particular thing, we cannot have certain and evident knowledge either that it has or had a cause or that it has or will have any effect. From the list of condemned theses, it seems that in his fifth letter to Bernard, Nicolas explicitly denied that we could have certain and evident knowledge that anything other than God is or could be an efficient cause—in other words, that there is any secondary causality. This contention was likewise condemned as "false and to be revoked."[201]

## 21. THE CONDEMNATION OF MEDIEVAL SCEPTICISM

I have already cautioned that Nicolas's own attitude towards the above arguments is uncertain. It is not too much to say, however, that anyone who accepted them and their conclusions would deserve the title "medieval sceptic." Further, the attitude of the Church authorities towards such scepticism in theory of knowledge was—at that time—decidedly negative. They rejected the criterion of certainty and evidence used by Nicolas, listing as "false and to be revoked" his statement that "apart from the certainty of faith, there is no certainty other than the certainty of the first principle and that which can be traced back to the first principle."[202] Further, they condemned its corollary (D)—that the existence of one thing cannot be inferred by a certain and evident inference from the existence of another.[203] Also explicity condemned are conclusions based on (D): viz., (L)—that we cannot have any certain and evident knowledge of the existence of material substances[204]—and his claim that we cannot have certain and evident knowledge of the existence of the cause from the existence of the effect, and vice

200. Appendix, 34*, lines 4–6; cf. lines 1–3.
201. Appendix, 32*, lines 21–32.
202. Appendix, 32*, lines 6–8.
203. Appendix, 31*, lines 13–15.
204. Appendix, 32*, lines 9–11.

versa. I doubt if the fact that (J)— that we cannot be certain, in the natural light, when our appearances concerning the existence of objects independent of our own minds are true or false—and (K)—that we cannot have certain and evident knowledge of the existence of the objects of the five senses—are not explicitly listed indicates any approval of them by the Church authorities. Perhaps, in the case of (K), they were aware of Nicolas's statement in the first letter that he had defended the contrary.[205] Given that Aquinas himself had limited the sort of knowledge that we can have of our own minds, it may be that (P) did not meet with universal disapproval.

* * * * *

## POSTSCRIPT:

I think we are now in a position to appreciate how odd it is, at least where general theory of knowledge is concerned, to link Ockham's name with the rise of scepticism. Let us ask, how was Ockham supposed to have manifested these sceptical tendencies?

(a) Not by engaging in extensive discussion of sceptical arguments and conclusions. It is Henry of Ghent who collects and discusses the ancient arguments that human knowledge is impossible. Duns Scotus argues that Henry's own view has the same consequence and explicitly discusses and rejects the Academics' criterion of certainty. And it is left to Nicolas of Autrecourt, making use of similar criterion, to deduce sceptical conclusions once more from assumptions made by Bernard of Arezzo but shared by other thirteenth and fourteenth century philosophers. By contrast, Ockham never gives explicit attention to arguments that human knowledge is impossible or acknowledges the consequences of his own admission that it is logically possible that God should deceive us.

(b) Not by assigning any legitimacy to the Academics' criterion of certainty. It is Henry of Ghent who suggests that

205. 1st Letter, 6*, lines 12–16.

knowledge of the unadulterated truth must meet this standard. And in his letters, Nicolas insists that the only certainty that we have in the natural light apart from the certainty of faith is that which involves the logical impossibility of error. Scotus explains the consequences of accepting the Academics' criterion and rejects it, insisting that we have certain and infallible knowledge when our belief is free from doubt and error. So far from accepting the Academics' standard, Ockham never mentions it. He merely proceeds to argue that we can have certain knowledge beginning with evident cognitions that are caused by a cognition of their terms and free from doubt and error.

(c) It would be reasonable to see Ockham's philosophy as the beginning of a sceptical trend, if his general theory of knowledge were more replete with sceptical consequences than those of his predecessors or contemporaries. Such an evaluation is not justified by the above survey, however. The fact is that none of the philosophers discussed above shows how we can have knowledge, whether of necessary truths or of the physical world, that we can infallibly distinguish from merely apparent knowledge of this kind. Henry tries to soften this conclusion by insisting that the Blessed will have such knowledge in the next life, although he does not really say enough to justify his Augustinian conviction that knowledge obtained in a direct vision of God would be self-certifying. Neither Scotus nor Ockham even tries to show that we can have knowledge that is certain in this sense. And the whole thrust of Nicolas's critique is that, on Bernard's assumptions, one cannot have any knowledge of contingent propositions that is free from the logical possibility of error.

Ockham's epistemology is neither self-consciously sceptical, nor does it have more sceptical consequences than other theories. Further, Ockham shows much less interest in the whole problem than the other philosophers we have discussed. Why, then, have historians of philosophy singled out Ockham's philosophy as marking the beginning of the rise of scepticism? I can think of three reasons.

(d) First, Ockham's admission that it is logically possible that God should deceive us brings Descartes' discussion in the

*Meditations* to mind. Descartes suggests in *Meditation* I that if it really were logically possible that God should deceive us, we could not have certain knowledge of anything. And he tries to avoid this conclusion by arguing that it is not really logically possible that an omniscient, omnipotent, but perfectly good God should deceive us constantly. His reasoning assumes that in calling God perfectly good, we are assuming that His volitions and actions measure up to a standard that any being would have to meet in order to count as good. And he maintains in *Meditation* IV that God would fall short of these standards if He deceived us constantly. It is worth noting that while Aquinas, Henry of Ghent, and Duns Scotus conceive of God's goodness in such a way that they could make use of this argument, Ockham does not. For—quite apart from whether or not he thinks that we can have logically conclusive evidence that God exists and is omnipotent and perfectly good (see Part Five, chapters 21 and 28)—Ockham's assertion of divine liberty, together with his grounding of ethical distinctions in the concept of obligation rule out any *a priori* demonstration that God is no deceiver. Briefly, on Ockham's view, one can be said to act wrongly (sin), only if one can be under obligation to someone to do something.[206] Rational creatures have an obligation to do whatever God freely commands, which obligation derives from the fact that He is the highest good and is to be loved above all and for His own sake.[207] God cannot be under obligation to anyone to do anything, however.[208] Therefore, He cannot act wrongly (sin), even if He is a deceiver. It might seem, then, that if Ockham had tried to refute scepticism (which he did not), he would have found himself at a disadvantage relative to his predecessors, because of his position in eithics. The importance of this point can be exaggerated, however. For quite apart from the well-known circularity of Descartes' proof, it depends on being able to show that

206. *Rep.* II, q.3–4, (OTh V, 59).

207. *Ord.* I, d.1, q.4, (OTh I, 447); *Rep.* II, q.15, (OTh V, 352–54); *De connexione virtutum,* q.7, a.2, (OTh VIII, 335–36); a.3, (OTh VIII, 358); *Rep.* IV, q.10–11, (OTh VII, 198).

208. *Rep.* II, q.3–4, (OTh V, 59).

God would be doing something evil if He deceived us constantly, even though—as perfectly good—He has not done anything evil in creating us with cognitive faculties that sometimes mislead us. Since the latter is difficult, if not impossible to establish with certainty, the ability to use Descartes' strategy is no great advantage in theory of knowledge.

(e) Second, while Ockham never seriously questioned the possibility of human knowledge in general or of our ability to acquire knowledge of necessary truths and of contingent truths about the physical world and of our own mental acts, he does try to show that our certain knowledge of theological truths is much more limited than his predecessors had imagined (see Part Five below). Some historians of philosophy, such as Gilson and Pegis, have found negative judgment about the scope of natural theology deplorable, and have perhaps regarded such relative pessimism about our ability to know theological truths as scepticism of the worst kind. We shall return to this issue in Part Five, chapter 22 below.

(f) Finally, historians have found it attractive to associate the rise of scepticism with ecclesiastical rebelliousness—and this whether they have regarded the latter developments as good or bad. Of the philosophers discussed in this chapter, Ockham is ecclesiastically the most rebellious. For he was excommunicated for defying Pope John XXII over the issue of Franciscan poverty. By contrast, Henry was on ecclesiastical commissions that sat in judgment of others; and Duns Scotus is on the road to beatification for sponsoring the doctrine of the immaculate conception of the Blessed Virgin Mary. Given these historical facts, historians have found it natural to cast Ockham in the role of medieval sceptic and destroyer of the medieval synthesis. Our survey in this chapter belies such a connection. For it is Nicolas of Autrecourt—at least in his surviving letters to Bernard and Aegidius—not Ockham, who gives a sceptical stance in theory of knowledge explicit development. And the list of condemned theses suggest that in his other letters, he drew sceptical conclusions about the possibility of natural

theology that far outrun Ockham's.[209] Yet, by comparison with Ockham, Nicolas was ecclesiastically submissive: he recanted his condemned theses, burned his books, and was made dean of Metz cathedral three years later.

In my opinion, the attempt to identify Ockham as the chief of medieval sceptics is largely misguided and highly misleading and should, accordingly, be abandoned.

209. Lappe, *op. cit.*, Appendix, 31*–45*.

# Part Four

## Natural Philosophy

# 15

# The Metaphysical Structure of Composite Substances

In the thirteenth and fourteenth centuries, philosophers generally agreed that corporeal substances were composites of matter and substantial form. Their further development of this doctrine—what they had to say about the ontological status of matter or the unity and plurality of substantial forms—depended on their views of what it is for a thing to be one *per se*. Actually, there are three different questions here:

(Q1) What is it for a thing to be one *per se*?

(Q2) What sorts of things are one *per se*?

and

(Q3) For each kind of thing, what is the metaphysical or ontological structure of things of that kind?

While a philosopher's answers to any two of these questions restrict his options in responding to the third, thinkers may agree on a reply to one and diverge widely regarding the other two. So far as (Q2) is concerned, medievals agreed with Aristotle that particulars of various natural substance kinds —especially plants and animals—are one *per se*, whereas artifacts—such as ships and houses—are not. Neither are heaps and piles, or composites of substances and accidents; indeed, white Socrates is the paradigm of *per accidens* unity. Ockham finds, in addition, that particulars in the category of quality are one *per se*. Regarding (Q1), an important issue is

(Q4) Can something one *per se* be constituted (wholly or partially) out of anything (any things) that is (are) one *per se*?

Medievals followed Aristotle in denying that any substance could be constituted (wholly or partially) from another substance or substances. And given their conviction that plants and animals are one *per se* (a partial answer to (Q2)), they joined him in rejecting Democritean atomism, which built larger bodies out of a plurality of atoms, each one per se itself, in favor of hylomorphism. In answering (Q1), Aquinas brought further metaphysical intuitions to bear and concluded that prime matter is pure potentiality and that there is only one substantial form in each thing (a partial answer to (Q3)). By contrast, most others were convinced by a variety of arguments that prime matter must have an actuality of its own and living substances a plurality of substantial forms (a partial answer to (Q3)) and inferred that a plurality of actual constituents does not interfere with a thing's being one *per se*.

In this chapter, I shall focus on how the interplay of answers to these questions was reflected in differing analyses of the metaphysical structure of living substances.[1] Difficulties regarding how qualities, which come in degrees, can be one *per se* will be examined in chapter 17 below. Nevertheless, it should be kept in mind that the issues at stake in (Q1)–(Q4) divide contemporary philosophers as well. Many diverge from medieval replies to (Q2) by including artifacts in the population of substances. And some give an affirmative answer to (Q4), thereby freeing themselves to combine atomism with the conviction that cows and trees, ships and houses are substances.[2]

1. For a full and excellent discussion of this subject, see Roberto Zavalloni, *Richard de Mediavilla et la controverse sur la pluralité des formes: Textes inédits et étude critique*, (Louvain, 1951).

2. For example, John Perry, "The Same F," *Philosophical Review* LXXIX (1970): 181–200, and Tyler Burge, "Mass Terms, Count Nouns, and Change," *Synthese* XXXI (1975): 459–478.

## 1. AQUINAS AND THE STRUCTURE OF COMPOSITE SUBSTANCES

For Aquinas, the most real being, God, is altogether simple and immutable.[3] His essence cannot be resolved into metaphysical constituents (see Part Five, chapter 21 below); His essence is identical with His existence; and He cannot be the subject of inherent accidents. By contrast, all creatures, whose existence is caused by God, are composites of essence and existence—even the angels who do not come into or go out of existence by any natural process.[4] And sublunary substances—the four elements and their mixtures, plants, and animals—by nature undergo generation and corruption. From this fact, together with Aristotle's analysis of natural change as involving a substratum that is first deprived of and then has (first has and then lacks) a certain form, Aquinas thinks we can infer that

(T1) all sublunary substances are composites of prime matter and substantial form

as well. Thus, he writes that prime matter

> is known according to analogy—i.e., according to proportion. For the way we recognize that wood is something besides the form of a bench and of a bed, is that sometimes it is under one form and sometimes under the other. Therefore, when we see that air sometimes becomes water, it is necessary to say that something that exists under the form of air sometimes exists under the form of water, and thus it is something besides the form of water and the form of air. Therefore, what is related to natural substances the same way bronze is related to a statue or wood to a bed, and the way whatever is material and unformed is related to form, we call prime matter.[5]

Likewise, once a cow becomes a corpse, we recognize that there is something else besides the form of bovinity and the form of

3. *Summa theologiae* I, q.3 and 9.
4. *De ente et essentia*, c.4–5.
5. *In I Physic.*, lect.13, n.118, (Marietti, 1965, 59); cf. *In VII Metaphys.*, lect.2, n.1286, (Marietti, 1964, 322–23).

cadaver, respectively. It cannot be identified with the accidents—e.g., the brown and white color in the fur of both cow and corpse. For the Aristolelian analysis requires that what persists through the change must be the substratum or subject that gains and/or loses a form. And neither substance nor substantial form can inhere in accidents; rather accidents inhere in substance. Further, Aquinas insists that the accidents do not really persist through the substantial change at all. For "an accident is multiplied according to the division of the subject in which it exists. Thus this whiteness is other than that insofar as this belongs to this and that to that..."[6] Since the cow is a different substance from the corpse, the accidents before and after the cow's death are at most exactly similar. Accordingly, Aquinas reasons that the persistent substratum must be distinct from substantial and accidental forms alike:

> ...it is necessary that the subject of mutation and motion, speaking *per se*, be other than each of the terms of the motion, as was proved in the *Physics*, Book I. Thus, since matter is the first subject that stands under not only motions which are with respect to quality and quantity and other accidents, but also with mutations that are with respect to substance, it is necessary that matter is, according to its essence, other than all substantial forms and their privations which are terms of generation and corruption, and not only that it is other than quantity and quality and other accidents.[7]

On Aquinas's conception, then,

(T2) Prime matter is the ultimate subject of inherence: substantial form inheres in prime matter but prime matter cannot inhere in anything.

As the substratum of substantial change,

(T3) The same prime matter exists first in one substance and then another and is subject to different substantial forms in succession.

6. *In I Sent.*, d.9, q.1, a.2, (Parma VI, 86)
7. *In VII Metaphys.*, lect.2, n.1285, 322.

The cow is a composite of prime matter and the substantial form of bovinity; and the prime matter with bovinity inhering in it is in potentiality with respect to having the form of cadaver inhering in it, while the prime matter with the form of cadaver inhering in it is in potentiality with respect to having the forms of the elements—earth, air, fire, and water—inhering in it. And "no matter what form it stands under, it remains still in potentiality with respect to another form."[8]

(T4) Prime matter is in potentiality with respect to the inherence of any natural sensible form that can be introduced into it by means of a natural process.[9]

Yet, the conclusion of this argument seems to cast as much doubt on the unity and hence the substancehood of such sublunary items, as Democritean atomism did. For if a cow breaks down into prime matter and substantial form, and prime matter can survive the cow's demise as a constituent of something else, is not prime matter the real substance? And if one is willing thus to abandon the substancehood of cows, one can analyse the death of a cow without appealing to anything so mysterious as prime matter. Why not identify the cow-body as the substratum which first has and then lacks certain accidental forms?

Aquinas thinks this would be a fair objection to anyone who supposed prime matter to be a particular thing (*hoc aliquid*) in its own right. But he denies it, insisting that prime matter "is not one the same way as a *this something*—i.e., as some indicated individual—is, so that it has form and unity in act. But it is called a being and one in potentiality to forms.[10] Aquinas agrees that

(T5) A composite whose constituents are themselves particular things has at most accidental unity.

8. *In I Physic.*, lect. 15, n. 138, 68.

9. *In II Sent.*, d.30, q.2, a.2, (Parma VI, 665–66); *Summa contra gentiles* II, c.96; *Summa theologiae* I, q.7, a.2, ad 3.

10. *In I Physic.*, lect. 13, n. 118, 59.

Further, and more metaphysically, he holds that

(T6) nothing one *per se* has more than one constituent that has an actuality of its own.

According to Aquinas, forms—whether substantial or accidental—have an actuality of their own, and a composite substance such as a cow gets its actuality and existence (*esse*) from substantial form. It follows that "substantial form, unlike accidental form, does not come to anything that preexists in act absolutely."[11] On the other hand, prime matter cannot be non-being, because then it could not serve as the substratum of substantial change.[12] His conclusion is that

(T7) prime matter of itself is pure potentiality and receives all of its actuality from the substantial form in it.

When it loses one form, it remains in act only by the act of another form.[13] As such, "prime matter is least in the order of sensible things."[14] Aquinas even remarks that it is impossible for God to create prime matter without simultaneously creating forms to inhere in it.[15] Assuming that intelligibility follows actuality, Aquinas concludes that

(T8) Prime matter of itself is unintelligible

as well:

> ...Since we posit prime matter created by God but not without form, there is a certain idea of matter in God, but not an idea different from the idea of the composite. For matter in itself neither has existence (*esse*) nor is knowable.[16]

11. *In II de anima*, lect.1, n.224–25, (Marietti, 1959, 60–61).
12. *In I Physic.*, lect.15, n.130–31, 66–67.
13. *Summa contra gentiles* II, c.43; IV, c.63.
14. *Ibid.* II, c.96.
15. *Summa theologiae* I, q.7, a.2, ad 3; q.84, a.3, ad 2.
16. *Ibid.*, q.15, a.3, ad 3.

It follows further from Aquinas's metaphysical axiom (T6) that there is only one substantial form per particular thing. For if the forms of the elements and mixtures, and the forms of nutritive, sensory, and intellectual soul all existed in one man, it would follow either that a man is a plurality of things and not absolutely one,[17] or that being alive, and capable of sensation and thought are accidental properties of a physical substance.[18] On the latter alternative, birth and death will not be genuine instances of generation and corruption, because they will not involve any change in substantial form.[19] Either way the substancehood of plants and animals is abandoned. Aquinas's conclusion is that sublunary substances are composites of prime matter and one substantial form, where the latter is what gives actuality and existence to the composite and the former has no actuality or existence prior to or independently of some composite or other. Man's single substantial form, intellectual soul, "virtually contains" the forms of the elements and the mixture, the forms of nutritive and sensory soul, because it produces the organizing effects on the matter that they would have the power (*virtus*) to produce if they could inhere in it simultaneously.[20]

## 2. PRIME MATTER MUST HAVE AN ACTUALITY OF ITS OWN

Scotus and Ockham agreed with Aquinas that

(T1) all sublunary composites are composites of matter and substantial form;

17. *Ibid.*, q.76, a.3; *Summa contra gentiles* II, c.58.

18. *Ibid.* II, c.58; *Summa theologica* I, q.76, a.4; cf. Giles of Lessines, *De unitate formae* III, c.2; *Correctorium 'Quare'*, a.31 and a.52, and *Correctorium 'Circa'*, a.30. (References in Zavalloni, *op. cit.*, 255, note 33.)

19. *Summa theologiae* I, q.76, a.4; cf. Giles of Rome, *Contra gradus* III, c.6, and Giles of Lessines, *De unitate formae* III, c.3, 65; *Correctorium 'Quare'*, a.31, 143; *Correctorium 'Circa'*, a.3, 188ff. (References to Giles of Rome and Giles of Lessines in Zavalloni, *op. cit.*, 256, note 37.)

20. *Summa theologiae* I, q.76, a.4; cf. a.4, ad 4; a.3 and ad 4; a.6, ad 1.

(T2) prime matter is the ultimate subject of inherence: substantial form inheres in prime matter but prime matter cannot inhere in anything.[21]

(T3) prime matter is a substratum of substantial change in which it first has and then lacks (lacks and then has) some substantial form or other;[22]

(T4) prime matter is in potentiality with respect to any substantial form that it lacks and can acquire by a natural process.[23]

Nevertheless, they reject Aquinas's conclusion that

(T7) prime matter of itself is pure potentiality and has no actuality of its own but receives all of its actuality from the substantial form in it

on the ground that if it were true, prime matter could not fill its putative theoretical role as substratum of substantial change and hence (T7) is inconsistent with (T2) and (T3). Scotus distinguishes two ways of being in potentiality: a thing may be the subject of the potentiality (have "subjective potentiality") or the term or object of the potentiality (have "objective potentiality").[24] For instance, suppose a lump of bronze is not but can be a statue. On Scotus's terminology, the lump of bronze would be the subject of the potentiality to be (have subjective potentiality with respect to being) a statue; but the statue or the property of being a statue would be the term or object of the poten-

21. Scotus, *Quaest. subtil. Metaphysicorum* VII, q.6, (Wadding IV, 682).

22. *Ibid.*, q.5, (Wadding IV, 680); Ockham, *Expos. Physicorum* II, t.3, (OPh IV).

23. Scotus, *Quaest. subtil. Metaphysicorum* VII, q.5, (Wadding IV, 681); Ockham, *Summulae Physicorum* I, c.15, (OPh VI); c.16, (OPh VI); *Expos. Physicorum* I, c.16 [190b29] t.65, (OPh IV); [191a] t.89, (OPh IV); [191a15] t.70, (OPh IV); c.18 [192a29] t.82, (OPh IV); III, t.61, (OPh IV).

24. *Quaest. subtil. Metaphysicorum* VII, q.5, (Wadding IV, 680–81); *Opus oxon.* II, d.12, q.1, (Wadding VI, 670).

tiality (have objective potentiality). Before the bronze is made into a statue, the object of the potentiality, viz., the statue, does not exist, but the subject of the potentiality, viz., the bronze, does exist. Indeed, if it did not so exist, it could not be the substratum of the change by which the statue is produced. For Scotus insists that

(T9) only what is itself some positive being can receive the being of something else into itself[25]

and therefore

(T10) only what is itself some positive being can be the substratum of change and receive into itself first one form and then another.[26]

Applying these theses to substantial change, he reasons that if (T7) prime matter of itself is pure potentiality and has no actuality of its own, then it cannot have subjective but only objective potentiality. And to say that prime matter is pure potentiality is tantamount to asserting that it is a non-being.[27] Since prime matter is supposed to have subjective potentiality with respect to substantial forms, it must be a positive being and have an actuality of its own after all.[28]

Aquinas might reply that Scotus fails to appreciate the distinction between pure potentiality and non-being. Obviously, a non-being is nothing and hence not the substratum of change. Yet, although prime matter of itself is pure potentiality and has no actuality of its own, it is actually something throughout the substantial change because its potentiality for being something actual is reduced to act by first one inherent substantial form and then another. For example, when Beulah the cow dies, the pure potentiality of prime matter is first actualized by Beulah's

25. *Quaest. subtil. Metaphysicorum* VII, q.5, (Wadding IV, 681).
26. *Opus oxon.* II, d.12, q.1, (Wadding VI, 670).
27. *Ibid.*
28. *Quaest. subtil. Metaphysicorum* VII, q.6, (Wadding IV, 682).

substantial form of bovinity and then actualized by the form of cadaver.

This defense seems inadequate in view of the further claim that

(T11) numerically the same prime matter exists in what is generated as in what is corrupted.[29]

For how can the prime matter in Beulah, which gets all of its actuality from the substantial form of bovinity, be numerically the same as that in the corpse, which gets all of its actuality from the substantial form of cadaver?

Scotus's own position is more radical. Finding the putative distinction between pure potentiality and non-being unintelligible, he feels justified in identifying the former with the latter. Accordingly, he reasons that it is contradictory to say that prime matter is part of *a composite* and yet deny that it is a positive being on its own.[30] For if all of the actuality in Beulah and her corpse, respectively, comes from substantial form, then substantial form is the only "component" and neither is genuinely composite.[31] Thus, Aquinas's appeal to (T7)—the claim that prime matter is pure potentiality—to save the unity of sublunary substances in effect reneges on the proposition mandated by Aristotle's analysis of substantial change, viz., that such substances are composite!

Scotus summarizes his own view as follows, claiming Aristotle's support for it:

> I say, therefore, that matter is *per se* one principle of nature as the Philosopher says in *Physics*, Books I and II; that it is *per se* a cause, as he says in *Physics*, Book II, and the *Metaphysics*; that it is part of a composite, *Metaphysics*, Book VII; that it is *per se* a foundation of relations, *Metaphysics*, Book I; that it is *per se* the subject of substantial change, *Physics*, Book V; that it is *per se* a cause of the composite, *Physics*, Book II; that it is a term of creation. Therefore, it follows that it is something,

29. Ockham, *Summulae Physicorum* I, c.15, 19, (OPh VI).
30. *Opus oxon.* II, d.12, q.1, (Wadding VI, 672).
31. *Ibid.*, (Wadding VI, 670–71).

> not in objective potentiality only, as all of the above stated arguments prove, but it is thus necessary that it is in subjective potentiality and actually existing or act...[32]

Sometimes, Scotus acknowledges, philosophers speak of being in act in contradistinction to what receives act. If one is using the word 'act' that way then matter is not act but the first subject of act. But where being in act is distinguished from being in potentiality, where 'potentiality' is taken in the sense of objective potentiality, then matter is a being in act,[33] which is able to receive the actuality of substantial forms. Scotus is willing to say that matter as the ultimate subject of inherence is the least of the beings,[34] but it is a positive being nonetheless. Ockham concurs in Scotus's conclusions—that prime matter as the substratum of substantial change must be a positive principle[35] that has an actuality of its own.[36] And he appeals to the latter's two senses of 'act' and 'actuality' to explain away apparent support in Aristotle and Averroes for Aquinas's position.[37]

Scotus reasons that since matter "remains the same under opposite terms and numerically distinct potencies that are corrupted in it, and is a term of creation," "it is really distinct from form."[38] His thought is that it follows from the conception of matter as the substratum of substantial change that

(T12) For any matter *M* and for any substantial form *F*, it is logically possible that *M* should exist and not be informed by *F*.

If for *X* and *Y* to be really distinct, it is enough that either it is logically possible that *X* should exist without *Y or* it is logically

32. *Ibid.*, (Wadding VI, 671).
33. *Ibid.*, (Wadding VI, 672–73).
34. *Ord.* I, d.27, q.1–3, n.40, (Vaticana VI, 81).
35. *Summulae Physicorum* I, c.8, (OPh VI).
36. *Ibid.*, c.15, (OPh VI); c.16, (OPh VI).
37. *Expos. Physicorum* I, c.14 [189b8] t.54, (OPh IV); c.16 [190b26] t.65, (OPh IV); [191a15] t.70, (OPh IV); c.17 [191b27] t.78, (OPh IV); *Summulae Physicorum* I, c.16, 19–21, (OPh VI).
38. *Opus oxon.* II, d.12, q.1, (Wadding VI, 671).

possible that *Y* should exist without *X*, then it will follow that prime matter is really distinct from form (see Part One, chapter 2 above). It is a further claim to say that

(T13) For any matter *M*, it is logically possible that *M* should exist without any form inhering in it at all.

Scotus admits that no natural agent is in fact capable of denuding it of any and every inherent form, and considers that Aristotle would have thought this altogether impossible.[39] Nevertheless. Scotus derives (T13) from (T12) by means of the premise

(T14) If it is logically impossible for matter to exist and not have some form or other inhering in it, then there is some form in particular such that it is logically impossible for matter to exist and not not have that form inhering in it.

Thus, Scotus writes,

> ...if there is an absolute necessary connection of matter to form..., then matter determines some form to itself of necessity. Proof of the inference: what determines some genus to itself, determines some species in that genus to itself. And whatever determines a species to itself, of necessity determines existence in some one individual of that species to itself, so that whatever of necessity is man, is this man or that man. But matter does not of necessity determine this form or that form to itself, as is clear. Therefore, neither [does it of necessity determine] the whole genus of form [to itself].[40]

Although premise (T14) seems false, Scotus takes it to be so obvious as to need no defense.

Ockham agrees with Scotus's contention that (T12) the existence of prime matter does not depend upon the inherence of any substantial form in particular, and he hints that the converse is true as well. In *Reportatio* IV, q.13, where Ockham is discussing the soul's relation to the matter it informs, he notes that the

39. *Ibid.*, q.2, (Wadding VI, 683).
40. *Ibid.*, (Wadding VI, 682).

intellectual soul is whole in the whole body and the whole in each part, while the sensory soul is whole in the whole body and part in each part. Consequently, he holds

> ...that no part of matter pertains to the reality of human nature without which the intellectual soul could not exist. For it determines no matter to itself. Nevertheless, some matter pertains to the reality of human nature in such a way that the sensory form of man, which is distinct from the intellectual form and is extended, cannot naturally exist without that matter...Nevertheless, I do not see that the sensory form could not perfect a different matter by divine power. And speaking [from that perspective], no matter pertains to the reality of human nature. And I do not see that divine power could not make all of the same forms of a man, both substantial and accidental, in some other matter.[41]

Since Ockham would have had no reason to distinguish the forms of man from other extended forms on these points, he probably held the general claim that if a form inheres in matter in such a way that the whole exists in the whole of the matter and a part in a part, then it is *naturally* impossible but *logically* possible that a given form inhering in this matter should exist and inhere in some other matter.

Did Ockham follow Scotus in endorsing (T13) as well? He does not say so explicitly in his commentaries on Aristotle's *Physics*, and he indicates that in his opinion Aristotle would deny it. For having asked "whether, if matter were separated from every form, it would then be of a certain quantity?" Ockham responds that "the question is impossible" because it is predicated on an impossible state of affairs.[42] Again, he writes,

> It should be noted that when the Philosopher says that form is separated from matter only according to reason, and the Commentator says in comment 12 that form is separated from matter by definition only, they do not mean that matter and form are one thing, distinct only in reason and definition. Rather they mean that form is not separated from matter in such a way that it could exist without matter, as the Commentator says in the same place. Nevertheless, they are two really

41. (OTh VII, 275).
42. *Summulae Physicorum* I, c. 19, 24, (OPh VI).

> distinct things, although matter could not be divested of all form in such a way as to exist without any form. And they are distinct in reason and definition, because there are distinct concepts in the soul, [each of] which reveals the essence of one and not the other. And by this very fact, they are distinct things.[43]

Similarly, he reasons on the basis of the antecedent "if *per impossible* matter existed without form..."[44] Nevertheless, given Ockham's acceptance of (T14) elsewhere, he probably would have consented to Scotus's inference of (T13).

Having insisted that matter of itself is a positive being and has an actuality of its own, Scotus and Ockham go on to reject Aquinas's corollary that

(T8) prime matter of itself is unintelligible.

Both admit that human beings are not able to have a proper intuitive cognition of prime matter in this life, because the human intellect cannot naturally have an intuitive cognition of any mind-independent thing that does not act on the senses to produce a sensory cognition of itself.[45] Thus, we arrive at our abstract cognition of prime matter by reasoning about substantial change and we conceive of it on analogy with and in relation to substantial form.[46] Ockham explains that by compounding various abstract and common concepts, we formulate a complex "which describes matter and nothing else. Nevertheless, each part of the complex cognition signifies something other than matter."[47] So far from this having anything to do with prime matter's being potential as opposed to actual, Ockham points out that we conceive of substantial form (the only actuality-component, according to Aquinas) exactly the

43. *Expos. Physicorum* II, t.11, fol.17vb–18ra, (OPh IV).

44. *Ibid.* I, c.18 [192a29] t.82, fol.15ra, (OPh IV).

45. Scotus, *Quaest. subtil. Metaphysicorum* VII, q.5, (Wadding IV, 681); Ockham, *Expos. Physicorum* I, c.16 [191a7] t.69, (OPh IV); *Summulae Physicorum* I, c.15, 19, (OPh VI). See Part Three, chapter 13 above.

46. Scotus, *Quaest. subtil. Metaphysicorum* VII, q.16, (Wadding IV, 718).

47. *Summulae Physicorum* I, c.20, 25, (OPh VI).

same way. Thus, we understand form to be "a thing apt to inform another" and matter to be "something in the nature of things that is first deprived of form and afterwards does not lack it."[48] God does not share our natural limitations, however. Since matter and form are really distinct things (*res*), He has a distinct idea of matter insofar as it can be created without form and constitutes a distinct degree of imitation of the divine essence.[49]

## 3. A PLURALITY OF SUBSTANTIAL FORMS

Aquinas's "unitarian" contention—that it is at worst impossible and at best superfluous to assume a plurality of substantial form in a single composite substance—was definitely a minority report. Most before and many after him maintained, on the contrary, that both philosophy and theology require there to be many substantial forms, at least in living composite substances. Defending the majority position, Scotus writes:

> ...there is a necessity for positing many here. And what necessity? Surely that which is the universal principle (*ratio*) for distinguishing this from that—viz., contradiction, which is the immediate principle for distinguishing many under being, inasmuch as if this and that receive a contradiction in being (*in essendo*), then this is not the same being as that. For if this is and that is not, they are not the same entity in being (*ens in essendo*)...[50]

While the most powerful pluralist arguments purport to rest simply on the principle of contradiction, they in fact employ a rich variety of other metaphysical and theological assumptions as well. The following three sets of arguments will exemplify but not exhaust the pluralist arsenal.

(3.1) *The Animating Substantial Form(s) Is (Are) Distinct*

48. *Ibid.*; *Expos. Physicorum* I, c.16 [191a7] t.69, (OPh IV).

49. *Opus oxon.* II, d.12, q.2, (Wadding VI, 698); Ockham, *Ord.* I, d.35, q.5, (OTh IV, 493).

50. *Opus oxon.* IV, d.11, q.3, (Wadding VIII, 653).

*from the Form of Body.* Pluralists held that philosophical and theological reflection on the phenomenon of death would establish that the animating substantial form or forms (on the Aristotelian scheme, the soul or souls) were distinct from the substantial form of body or "corporeity." (3.1.1) *Argument from the Principle of Contradiction.* Scotus thinks the philosophical argument from death is simple and straightforward. He writes,

> ...The body remains when the form of soul does not remain. Therefore, universally, in any animated thing whatever, it is necessary to assume that the form by which body is body is different from that by which it is animated...[51]

But a unitarian would see the issue as already begged in Scotus's first premiss: the body *remains.* All agreed that Beulah's animating substantial form is present before but not after, while her corpse is there after death. By the principle of contradiction, together with uncontroversial hylomorphic assumptions, it follows that the substantial form by which Beulah was animate is not identical with that by which her corpse is a body. Yet, Aquinas would have insisted that the body does not remain, because Beulah's body is not identical with her corpse. For on the unitarian assumption, the form of sensory soul is Beulah's only substantial form, and it is what works up the prime matter into Beulah's body, while a distinct substantial form—the form of cadaver—combines with the same matter to produce the corpse. Since the composite gets its being from the substantial form, and Beulah's body and her corpse get their being from different substantial forms, it follows that they are not the same body, however similar they might be.

Pluralists thought that this very similarity of living and (freshly) dead bodies would put both common sense and science on their side. Richard Middleton[52] and Ockham[53] argue

51. *Ibid.*
52. *De gradu formarum*, (Zavalloni ed., *op. cit.*, 73–81).
53. *Quodl.* II, q.11, (OTh IX, 162–63).

ingeniously as follows: when, e.g., Beulah the cow dies, the accidents of the cow and those of her corpse are specifically the same "as is clear from the fact that they are so similar that a man cannot judge between them."[54] But if, as the unitarians suppose, Beulah's body and her corpse are distinct substances, their accidents will be numerically distinct, because "accidents cannot migrate from substance to substance." Hence, the question arises of what the total efficient cause is that accounts for the new set of accidents and for the fact that they are specifically the same. It cannot be (i) the air or other elements surrounding Beulah at death or (ii) the sky or other heavenly bodies. For the same causes would be total efficient causes of the same kinds of accidents in any and every corpse newly produced in the environs—which is obviously not the case. If a black and white cow and a brown cow die side by side in the same pasture, the corpse of the former will be black and white and that in the latter brown. It cannot be (iii) the prime matter or (iv) the new substantial form either. For both are of the same kind in the black and white cow and the brown cow and their respective corpses; and things of the same kind are total efficient causes of effects of the same kind. Yet the accidents of the corpses are specifically different. (v) No combination of the above mentioned features can be the total efficient cause for the same reason. (vi) Could the cow's accidents act alone or in consort with any of the above factors to produce numerically distinct accidents of the same species? Not directly, because Ockham follows Avicenna in maintaining that immediate total or partial causes must be simultaneous with their effects; what ceases to exist before the effect is produced is at most its cause *per accidens* and indirectly by virtue of its having produced something else (see chapter 18 below). Perhaps it will be suggested that the cow's accidents produce dispositions in the prime matter and these incline it to receive accidents of the same species later. But such dispositions would themselves be accidents of the cow and would not survive its demise either. (vii) Finally, it may be suggested that the thing that kills the cow causes the new accidents.

54. *Ibid.*, (OTh IX, 163).

But this is implausible, since the same agent may use the same instrument to kill a black and white cow and a brown cow, and yet the accidents of the first corpse will differ in species from those of the second. It seems, therefore, that unitarians cannot assign any cause why the corpse would have accidents of the same species as the corpse. But nothing comes into existence without a cause. Hence the accidents must persist numerically the same through the substantial change, and—since accidents cannot migrate from substance to substance—the subject of the accidents must be numerically the same as well. Hence, when, e.g., a cow dies, body *remains*.

(3.1.2) *Theological Arguments.* What added real fire to the controversy was the pluralist charge that heresy results from Aquinas's failure to distinguish a substantial form of body from at least one substantial form of soul in human beings. (3.1.2.1) *From Relics.* The first pair of difficulties had already been pointed out by Kilwardby and Peckham, but was reiterated by many others including Ockham himself.[55] He writes,

> ...Concerning man specifically: if the corporeity in man were not distinct from the sensory soul, then the body of Christ in the tomb would never have been an essential part of the human nature in Christ. Nor would the same body have been alive and dead, nor would the deity have been united to that in the tomb, unless by means of a new assumption—which seems absurd.
>
> Similarly, then the bodies of the Saints would not be the same alive and dead and consequently [the dead bodies] should not be adored as the bodies of the Saints, since the Saints never had these bodies...[56]

Peckham condemned the second consequence in 1286, because he saw it as undermining the medieval practice of venerating relics.

55. Among objectors, Zavalloni (*op. cit.*, 317, note 36) lists Guillelmus de Mara, *Correctorium fratris Thomae*, a.31, (Glorieux ed., 129 sq.); Petrus de Falco, *Quaestiones disputatae*, q.5, (Assisi 159, fol.169c); Petrus de Trabibus, I *Sent.*, d.3, a.3, q.3, (Assisi 154, fol.25d); Richard de Mediavilla, *De gradu formarum*, (Zavalloni's text, 107–110); Peter Olivi, *Quaestiones* V, q.50, (Jansen ed., 87 sq.); and Henry of Ghent, *Quodlibeta* II, q.2.

56. *Quodl.* II, q.11, (OTh IX, 163–64).

The first was thought to complicate orthodox Christology and the doctrine of Transubstantiation. According to medieval theology, in the Incarnation the subject or suppositum that is the divine nature assumes human nature, too. But Aquinas and his followers held that the assumed human nature consists of prime matter together with a single substantial form of intellectual soul, which leaves the composite when Christ dies. Thus, if there is to be a body in the tomb between Christ's death and resurrection, it will either have to be one that never has any special relation to Christ or to the divine nature, or we shall have to say that when Christ dies, the suppositum that has the divine nature and had assumed a human nature, assumes a second created nature, a body. It ran against common theological opinion to say that the suppositum that has divine nature assumed more than one created nature, even successively.

Again, it follows that if any of the bread transubstantiated into the body of Christ on Maundy Thursday remained on Good Friday, it would undergo a substantial change when Christ died. For the living body of Christ into which it had been transubstantiated would exist no longer.

Aquinas tried to defend the identity of the living and dead body of Christ as follows:

> ...The dead body of any other man whatever is not absolutely the same as his living body, but the same in a certain respect (*secundum quid*): for it is the same with respect to the matter but not the form. The body of Christ remains absolutely the same, however, because of the identity of the suppositum.[57]

All that persists through the death of ordinary human beings is the matter, and the identity of the matter is not sufficient to preserve the identity of the living with the dead body. When Christ dies, however, not only the matter but the *suppositum* or subject that assumed human nature in the first place, remains the same. And Aquinas insisted that this would be enough for the absolute identity of the living and dead body of Christ. This

57. *Summa theologiae* I, q.50, a.5, ad 1.

ingenious suggestion was taken up by Aquinas's follower, Giles of Lessines.[58] Richard Middleton argued, on the contrary, that the identity of the *suppositum* could not possibly preserve the absolute identity of the body, because the *suppositum* has nothing to do with the essential nature of the latter.[59]

(3.1.2.2) *From Transubstantiation.* Further, pluralists contended that the unitarian position made transubstantiation of the Eucharistic bread into the body of Christ impossible (see Part One, chapter 6 above). For on Aquinas's view, Christ's human nature is exhausted by the composite of matter signed by quantity together with the intellectual soul. But if the Eucharistic bread is transubstantiated into the whole composite, then it will be transubstantiated into Christ's soul as well as His body, or rather into His whole human nature—which is contrary to doctrine. If it is transubstantiated into the matter alone, it will not be transubstantiated into the body of anything, since matter in itself is no more body than it is alive or rational. Nor is it acceptable to say, as Giles of Rome did,[60] that the Eucharistic bread is transubstantiated into matter signed by quantity and hence extended in three dimensions. For accidents cannot inhere in matter unless some substantial form inheres in matter. Hence, there is no way for Aquinas's theory to allow for the Eucharistic bread to be transubstantiated into the body of Christ alone.[61]

(3.2) *The Argument from Human Reproduction.* Human

58. *De unitate formae* III, c.5, (De Wulf ed., 85), quoted in Zavalloni, *op. cit.*, 260, note 51.

59. See Zavalloni's text, *op. cit.*, 366.

60. See Zavalloni, *op. cit.*, 366.

61. This objection is raised against the partisans of unity by Petrus de Trabibus, I *Sent.*, d.3, a.3, q.3, (Assisi 154, fol.25d); Guillelmus de Mara, *Correctorium fratris Thomae*, a.31, (Glorieux ed., 130); Petrus de Falco, *Quaestiones disputatae*, q.5, (Assisi 159, fol.170z); Richard de Mediavilla, *De gradu formarum*, (Zavalloni ed., 105–107); Petrus Olivi, *Quaestiones*, q.50, App., (V, Jansen ed., 86ff); Gonsalvus Hispanus, *Quaestiones disputatae*, q.14, (IX, Amorós ed., 303); Scotus, *Opus oxon.* IV, d.11, q.3, (Wadding VIII, 656, n.58J). (References in Zavalloni, *op. cit.*, 318, note 37.) See also Henry of Ghent, *Quodlibeta* IV, q.13, (Zavalloni, *op. cit.*, 291, note 9).

reproduction involves the generation of a new composite of matter and substantial form. In the thirteenth and fourteenth centuries, many held it to be a matter of doctrine that the intellectual soul was caused by God and not by the human parents or any other creatures. Nevertheless, to deny that the human parents produced any substantial form in the child—especially that the Blessed Virgin produced any in Jesus—would seem to underestimate the role of human parents in reproduction. Since the same substantial form cannot be both caused by the human parents and not caused by them, it follows that the parents produce a substantial form in the child distinct from its intellectual soul and therefore that there must be at least two substantial forms in each human being.[62]

This argument does not determine which substantial form the human parents produce. Henry of Ghent and Petrus de Falco marshalled it to distinguish a substantial form of soul from a substantial form of body.[63] Others, including Robert Kilwardby and Richard Middleton,[64] claimed that the sensory soul is produced by the human parents, while the intellectual soul is the product of divine intervention. But further arguments would be needed to justify one conclusion rather than the other, or to show on the one hand that the sensory soul is a distinct substantial form from the intellectual soul, or on the other hand that the form of body is a distinct substantial form from the sensory soul. And not all pluralists held that the sensory soul was a really distinct substantial form from the intellectual soul: e.g., Henry

62. The theological worry that unitarians downgrade the divine maternity of Mary was expressed by Guillelmus de Mara, *Correctorium fratris Thomae*, a.32; Petrus de Falco, *Quaestiones disputatae*, q.5, (Assisi 159, fol.169b); Petrus de Trabibus, I *Sent.* d.3, a.3, q.3, (Assisi 154, fol.25d); and Gonsalvus Hispanus, *Quaestiones disputatae*, q.14. (References in Zavalloni, *op. cit.*, 319, note 39.)

63. Henry of Ghent, *Quodlibeta* IV, q.13, (fol.106v), (reference in Zavalloni, *op. cit.*, 289). Petrus de Falco, *Quaestiones disputatae*, q.5, (reference in Zavalloni, *op. cit.*, 325, note 4).

64. Robert Kilwardby, "Letter to Peter of Conflans," (reference in Zavalloni, *op. cit.*, 320, notes 2 and 3). For Richard Middleton's view, see Zavalloni's text, *op. cit.*, 373.

of Ghent did not, insisting that there were only two substantial forms in man.[65] And Duns Scotus maintained that while the vegetative, sensory, and intellectual souls are formally distinct, they are nevertheless really the same.[66] Nevertheless, Ockham believed that the sensory soul is really distinct from the intellectual soul, and it is to these arguments that we now turn.

(3.3) *Arguments for Distinguishing Distinct Substantial Forms of Soul.* Pluralists of the first wave were accustomed to distinguish three substantial forms of soul in man—the vegetative or nutritive, the sensory, and the intellectual. And they appealed to

(T15) (a) Diverse substantial forms correspond to diverse powers; (b) diverse powers, to diverse essential activities,

which combined with Aristotle's identification of the nutritive, sensory, and intellectual as distinct essential activities, to yield their conclusion.[67]

Yet (T15) seems especially vulnerable to unitarian attacks. For God was agreed to be a single simple form capable of producing effects of infinite variety (see Part Five, chapters 21, 28–29). Further, they insisted, the perfection of a substantial form can be measured by how many different kinds of activities it is capable of producing. It is, therefore, superfluous to assume a plurality of substantial forms to account for the different kinds

65. Zavalloni, *op. cit.*, 287–296.

66. *Ord.* II, d.1, q.6, n.321, (Vaticana VII, 156).

67. (T13) was employed by Robert Kilwarby, "Letter to Peter of Conflans," (quoted in Zavalloni, *op. cit.*, 311, note 24); Gonsalvus Hispanus, *Quaestiones disputatae*, q.14, (Zavalloni, *op. cit.*, 311, note 25); Guillelmus de Mara, *Correctorium fratris Thomae*, a.31, 32, 90; Guillelmus de Falgario, *Quaestiones disputatae*, q.5, (Assisi 174, fol.30r); Ioannes Dacus, *Quaeritur utrum*, (Assisi 158, fol.98d); Matthaeus ab Aquasparta, *Quaestiones de anima* XIII, q.4 (Florence, Bibl. Laur., Aedil. 164, fol.80v); Petrus Olivi, *Quaestiones in secundum librum Sententiarum*, q.50; Gonsalvus Hispanus, *Quaestiones disputatae*, q.14, (Zavalloni, *op. cit.*, 316, note 33).

of essential activities found in living things.[68] The full ontological license granted by (T15) stems from the vagueness of the phrase 'kinds of essential activities' and does not appear from the pluralists' actual applications of it to distinguish the vegetative, sensory, and intellectual substantial forms. Are not the activities of nourishing different from those of reproduction? Cognitive activities from conative or appetitive? Visual from auditory, olefactory, gustatory, and tactile? If (T15) were true, it could justify many more substantial forms than three.

Ockham rejected (T15b), maintaining that "the argument from diverse activities does not work because the same thing can be the source of different activities."[69] Instead he holds that

(T16) Acts of types *A* and *B* issue from distinct powers if and only if it is naturally possible that acts of type *B* be naturally impossible when acts of type *A* are naturally possible.

Thus, he reasons that cognitive and appetitive acts can proceed from the same power, because it is always naturally possible that a sensory appetite (volition) accompany a sensory (intellectual) cognition.[70] On the other hand, since it is naturally possible that someone be blind but not deaf, acts of vision and acts of hearing do proceed from different powers.

Likewise, Ockham denies (T15a). Considering the diversity of sensory powers, he argues

> ...It is futile to do with more [what can be done with fewer]. But all sensory activities can be elicited by one sensory soul, which—as a principle of eliciting activities—remains indistinct. Therefore, it is futile to posit more forms.[71]

68. Such reasoning is found in Giles of Lessines, *De unitate formae* (Zavalloni, *op. cit.*, 282); in the critique of the *Tractatus de formis* attributed to Hervaeus Natalis (quoted in Zavalloni, *op. cit.*, 283–84, note 73); and in Henry of Ghent, *Quodlibeta* IV, q.13, (fol.106r), (Zavalloni, *op. cit.*, 288–89, note 4).

69. *Quodl.* II, q.11, (OTh IX, 164); cf. *Rep.* II, q.20, (OTh V, 429).

70. *Ibid.*, (OTh V, 444–45).

71. *Ibid.* III, q.4, (OTh VI, 136).

And regarding the putative distinction between vegetative and sensory souls, Ockham contends that

> ...It is unnecessary to suppose that the vegetative and sensory souls are distinct. For the argument concerning the diversity of activities does not establish its conclusion, because the same thing can be the principle (*principium*) of diverse activities.[72]

Ideally, Ockham would like to have based his assertion that

(T17) The substantial form of sensory soul and the substantial form of intellectual soul are really distinct

on the principle of contradiction alone. But he admits that this is "difficult to prove"[73] from propositions known *per se* and finds himself forced to rely on more or less debatable principles regarding the nature of appetite, cognition, and the manner of inherence.

(3.3.1) *Arguments from Appetites.* He draws his first group of arguments from putative limits on the variety of appetitive acts that a single form can cause or be subject to simultaneously:

(T18) The act of having an appetite for an object (a "pro"-act) is contrary to that of avoiding or rejecting the same object (a "con"-act);

(T19) It is impossible for the same subject (substantial form) to have two appetitive acts—one pro and one con, both pro or both con—with respect to the same object simultaneously;

and

(T20) It is impossible for the same substantial form to elicit two appetitive acts with respect to the same thing —one naturally and one freely.

72. *Quodl.* II, q. 11, (OTh IX, 164).
73. *Rep.* IV, q.9, (OTh VII, 161).

It is an obvious fact that we can at one and the same time have both a sensory and an intellectual appetite directed towards the same object—sometimes both pro, sometimes both con, sometimes one pro and one con. And the sensory act is produced naturally, while the volition is elicited freely. These data combine with each of (T18)-(T20) to yield (T17).[74]

To Walter Chatton's plausible objection that (T18) is false, because

> ...these appetites are called contraries because they are apt to incline [the agent] to contrary effects. Thus, they are virtual contraries, because one inclines [the agent] to pursue or to flee what is incompossible with the other. Such contraries can exist in the same subject; moreover, they are not formally contraries.[75]

Ockham responds with the following dismissal:

> On the contrary, I could just as easily say that willing and willing-against something are not formally but only virtually contrary acts, since they are apt to incline [the agent] to contrary effects. And then we would lose every way of proving that any acts are contraries.[76]

Thus, he does not budge from his conviction that as *p* and not-*p* are incompossible objects, so a pro-act and a con-act are formal contraries that cannot exist simultaneously in the same subject.

(3.3.2) *Arguments from Cognition*. Ockham formulates his principal argument from cognition succinctly as follows:

> ...Sensations inhere mediately or immediately in the sensory soul as subject and not in the intellectual soul as subject. Therefore, the sensory and the intellectual souls are distinct...[77]

And he defends his premiss against the anticipated unitarian rejection in two ways. (a) First, assuming that

74. *Quodl.* II, q.10, (OTh IX, 157); *Rep.* IV, q.9, (OTh VII, 161–63).
75. *Quodl.* II, q.10, (OTh IX, 157).
76. *Ibid.*
77. *Ibid.*, (OTh IX, 158).

(T21) acts of the same kind have subjects of the same kind,

Ockham argues as follows:

> ...the vision of a man and the vision of a brute with respect to the same object are [acts] of the same kind. Therefore, they have subjects of the same kind. But the subject of vision in a brute is the sensory soul insofar as it is distinct from the intellectual soul. Therefore, the same is true in man.[78]

Medievals took Ockham's premiss—that vision is of the same kind in brutes and men—for granted. His identification of the form of sensory soul as its subject runs counter to Aquinas's claim that sensation is an activity of the composite substance and not the soul alone,[79] although either thesis combines with (T21) to yield Ockham's conclusion.

Nevertheless, (T21) apparently suffers from a vagueness in the expression 'of the same kind' analogous to that which infected the cruder pluralist assumption (T15). For it will equally well support the conclusion that acts of understanding and willing have subjects of the same kind in humans and angels. Yet, the human intellectual soul is not of the same most specific species as any angel, whether by reduction or otherwise. How then can Ockham conclude that the substantial form of sensory soul is of the same kind in humans and brutes? He may mean only that they are alike in that the kind found in brutes and humans is the animating, sense giving, extended kind, while that found in humans and angels is the intellectual, volitional, unextended kind. By the principle of contradiction, the former cannot be identical with the latter. Given this broad interpretation, however, (T21) proves too much for Ockham's purposes. For he should equally well reason that since plants, brutes and humans all share the activities of nutrition, growth, and reproduction, the subject of these activities must be of the same kind in all. But plants lack any sensory or intellectual soul. Hence, brutes and humans would have to include a vegetative

78. *Rep.* IV, q.9, (OTh VII, 162).
79. *Summa theologiae* I, q.76, a.1.

soul really distinct from the sensory and/or intellectual souls as well.

(b) A second defense rests on the more plausible principle

(T22) subjects of the same kind can be subject to acts of the same kind.

Just as two cows can be of the same color, even though they are in fact of different colors; so since one has a vision of a tree, the other can too, even if the second in fact has none. Ockham reasons that if the intellectual soul were the subject of sensations in a human being, then by (T22), an angelic intellect could be subject to sensation, too—which he finds absurd.[80] But why so? Ockham's ultimate answer is that if the intellectual soul were the subject of sensations, then "every apprehension of the sensory soul would be an act of understanding, because it would inhere in the intellectual soul as subject."[81] If acts are labelled "sensory" or "intellectual" according to what substantial form they inhere in, regardless of their content, unitarians might happily admit that neither human beings nor angels have any sensory acts, since their substantial forms are intellectual and not sensory and Ockham's argument will seem once again to have begged the question.

(3.3.3) *An Argument from the Manner of Inherence.* Finally, Ockham argues that there must be distinct forms of sensory and intellectual souls in man because such forms inhere in their subjects in different ways. As noted before, Ockham recognized two ways in which a form can inhere in its subject: the whole form may be whole in the whole subject and part in each part of the subject, or it may be whole in the whole subject and whole in each part of the subject. Forms that inhere in bodies the first way are extended throughout their subjects and material, whereas those that inhere the second way are unextended and immaterial. With this background in mind, he reasons,

80. *Quodl.* II, q.10, (OTh IX, 158).
81. *Ibid.*

> ...Numerically the same form is not extended and unextended, material and immaterial. But the sensory soul in man is extended and material. And the intellectual soul is not, since it is whole in the whole and whole in each part. Therefore, the sensory soul is numerically distinct from the intellectual soul.[82]

Confident unitarians would reject the second premiss, insisting that it is not the sensory soul, but rather sensory powers, which are accidents produced by the inherence of a single intellectual soul that is whole in the whole body and whole in each part. By contrast, Ockham finds the second premiss—that the sensory soul in man is extended and material—more obvious than the third—that there is an unextended, intellectual soul in human beings. For while we can know from experience that we understand and will, and hence infer that there is some substantial form through which we do it, he maintains that "it cannot be evidently known by reason or experience that there is such a form" as an intellectual soul that is immaterial and incorruptible and whole in the whole body and whole in each part "in us, or that such a soul is the form of the body."[83] And he explains further,

> ...we experience only acts of understanding and will and the like. But one who follows natural reason together with experience would say that all of these are activities and passions caused by and received into the form through which he supposes that a man is distinct from the brute animals. Although according to faith and the truth this is the incorporeal soul that is an incorruptible form, nevertheless, such a person would say that it was an extended form that can be generated and corrupted. Nor does experience seem to lead to the conclusion that there is any other form.[84]

Thus, Ockham's argument from distinct manners of inherence seems more to draw out the consequences of tenets held on faith than to prove a real distinction between the forms of sen-

82. *Ibid.*, (OTh IX, 159).
83. *Ibid.* I, q.10, (OTh IX, 63).
84. *Ibid.*, (OTh IX, 64).

sory and intellectual souls in human beings.

(3.4) *Summary of the Pluralist Position.* The pluralist doctrine is thus a response to the perceived necessity of finding within a composite substance a plurality of things about which true predications can be made. The arguments in (3.1) distinguish within living things a body (a composite of matter with the substantial form of corporeity) and a substantial form of soul, on the ground that the former does and the latter does not remain after the composite is corrupted. Again, the reasoning in (3.2) distinguishes the intellectual soul which is immediately produced by God and in no way by human parents, from a composite of matter with one or more substantial forms that is produced by human parents and not by God acting alone. And the arguments in (3.3) say that there must be at least two substantial forms in the human soul, because it is impossible that a single thing be subject to all of the cognitive and conative acts that can be simultaneously attributed to a single human being.

There are many ways to develop a pluralist position, however. One could identify the hierarchy of things about which the various predications are true with one in which each is related to the next as a constituent to what it constitutes. For example, in a cow, prime matter would be what remains when the corpse has rotted; the cow body (a composite of prime matter with the substantial form of corporeity), that about which color predications are primarily made; a nutritive being (a composite or prime matter with the substantial forms of corporeity and nutritive soul), that to which nutritive acts are primarily attributed; and the cow (a composite of prime matter with the substantial forms of corporeity, nutritive soul, and sensory soul), that which has sensory cognitions and appetites. Alternatively, one might see the things about which the various predications are made as distinct constituents of the same composite substance, so that the nutritive soul alone was the subject of nutritive acts; the sensory soul alone, of sensory acts; etc. And Ockham once attributes to Duns Scotus yet another opinion—that in addition to prime matter and one or more subordinate substantial forms, there is a "form of the whole in the composite" which is "the immediate subject of the accidents"

attributed to the composite.[85]

Ockham's own view lies in between the first two, although it is closer to the second. For he infers from (T21) that

(T22) the intellectual soul alone, and not the whole composite, is the first and proper subject of understanding and willing.

And he defends, against Aquinas and others, the proposition that

(T23) the sensory soul alone and not the whole composite is the first and proper subject of sensory cognition and appetite.

He reasons that

> an accident is no simpler than its first subject...Therefore since sensation is a simple accident, it cannot exist in a composite as its immediate and first subject.[86]

His first premiss is supposed to follow from the axiom that there must be a proper proportion between what inheres and the subject of inherence. If the first subject has parts, what inheres must have proportionately many parts. So if what inheres is without parts, its subject is simple, too.

This argument may seem inconclusive, however. For a simple form may inhere in a composite and extended subject, provided it is whole in the whole subject and whole in each part. Even if a sensory cognition or appetite is simple, it could exist in the whole composite that way. In *Reportatio* IV, q.9, Ockham rejects this suggestion, contending that if the sensation did thus inhere

> ...Then numerically the same accident would be received into two numerically distinct and equally immediate first subjects—which seems false. And so by the power of God, one subject with that accident can

85. *Rep.* IV, q.9. (OTh VII, 163).
86. *Quodl.* II, q.10, (OTh IX, 158–59).

be destroyed and the other with the same accident remain, and so the same thing would remain after its own destruction—which is absurd.[87]

The intuition here is that

(T24) if *a* and *b* are numerically distinct subjects of inherence, then God can annihilate *a* together with whatever is inhering in it without annihilating *b*.

Unfortunately, this runs counter to Ockham's own remarks about the intellectual soul, which he supposes to be whole in the whole composite and whole in each part: e.g., whole in the foot, whole in the arm, and whole in the head. He even allows that while "by nature it cannot simultaneously inform two discontinuous matters," "it can do so by divine power." And if the latter possibility were actualized, "there would be two men according to the diversity of matter," but not two souls.[88] Evidently, Ockham supposes (T24) to admit of an exception where the inherent form is the intellectual soul. What right does he have to balk at further exceptions for sensory cognitions or appetites?

Beyond (T22) and (T23), Ockham does not say whether the first and proper subject of color or heat is the form of corporeity or the composite body, although the latter seems the more reasonable view. As for the relation between the form of sensory soul, on the one hand, and the body and/or its parts on the other, he maintains that

...either the sensory soul is immediately received into the form of corporeity, or immediately into the matter, since there seems to be no cogent argument that these forms do not perfect the same matter immediately.[89]

The latter view was held by Henry of Ghent.

87. (OTh VII, 164).
88. *Quodl.* I, q.12, (OTh IX, 70).
89. *Ibid.* II, q.11, (OTh IX, 164).

Thus, according to Ockham, the substance Socrates is a composite of at least four, really distinct things; prime matter, the form of corporeity, sensory soul, and intellectual soul. The form of corporeity inheres directly in the prime matter; the form of sensory soul either inheres directly in prime matter or in the form of corporeity; and the intellectual soul is whole in the whole composite and whole in each part. And although the latter two forms are in the genus of substance only by reduction, they are each the subject of their own really inherent accidents. Further, where his predecessors had been careful to speak of two or three *substantial forms* of soul, Ockham seems uninhibited in his reference to two souls in man.[90]

## 4. THE PLURALIST ACCOUNT OF THE UNITY OF COMPOSITE SUBSTANCES

So far, our account of the pluralist position seems to justify Aquinas's worst accusations. For they insist that

(T25) A composite substance is a plurality of distinct particular things,

contrary to

(T5) A composite whose constituents are themselves particular things has at most accidental unity;

and hence that

(T26) A composite substance has a plurality of a constituents that are beings each of which has an actuality of its own.

contrary to

90. Zavalloni, *op. cit.*, 384–405.

(T6) Nothing one *per se* has more than one constituent that has an actuality of its own;

and further that

(T27) Beings with an actuality of their own first are and then are not constituents of a larger composite.

Given (T26) and (T27), how can they hold that composite substances have any more unity than substance and accident do? Given (T25), any more than a heap of stones?

They answer that the unity of a composite is not affected by the actuality or real distinctness of the components but depends upon the relation among them. And they take it to be a primitive fact about some things that they combine to make a complete being that is one *per se*. Matter and a full complement of substantial forms do. And the substantial forms in question constitute a hierarchy in which each is related to the next as determinable to determinate. Thus, early pluralists thought that the inherence of the form of corporeity or the forms of the elements left the composite indeterminate and determinable with respect to being alive or not; the form of nutritive soul renders it determinate with respect to life but indeterminate and determinable with respect to sensation; sensory soul, determinate with respect to sensation but indeterminate and determinable with respect to understanding and will; intellectual soul, fully determinate. The inherence of the "lower" substantial forms in such a hierarchy actualizes some but not all of prime matter's potentiality for the inherence of substantial forms, while that of the last member of the hierarchy together with the others exhausts that potenitality and places the composite in some most specific species of the genus substance. Many pluralists labelled the compound of prime matter with its full complement of substantial forms a "complete being" and those with less than the full complement "incomplete beings." Only complete beings are said to fall under the genus strictly

speaking; incomplete beings, by reduction only.[91]

Accordingly, pluralists reject Aquinas's objection that since the inherence of any substantial form whatever in prime matter confers absolute existence on the composite, there can be only one substantial form per substance and many substantial forms make for many things. Scotus writes,

> Replying to the first argument, I grant the first proposition—that there is one existence of one being. But the second—that one existence requires only one form—should be denied, where 'existence' is taken the same way in the major and the minor. For just as being and one are divided into simple and composite, so existence and one existence are distinguished into [simple] and [composite]. Therefore, existence that is one *per se* is not restricted merely to simple existence, just as nothing divided is restricted to only one of its subdivisions. This way, there is one existence of the whole composite, and yet it includes many partial entities. For I do not know this fiction that existence is something superadded to the essence and not composite when the essence is composite. Thus, the existence of the whole composite includes the existence of all of the parts, and includes many partial existences or many parts or forms, just as the whole being made up of many forms, includes those partial actualities.[92]

On the other hand, if Aquinas really insists on saying that there is one substantial form through which the composite gets its being, Scotus will identify it with the last substantial form to be added.

> ...This way the whole composite is divided into two essential parts—into its proper act—viz., the last form by which it is what it is—and the proper potency of that act, which includes the prime matter together with all the preceding forms. This way I grant that the whole existence is complete by one form that makes the whole what it is. But it does not follow from this that the whole includes precisely one form or that it is not the case that the whole includes many forms, not as what constitute the composite in a species but as certain [things] in the potential part of that composite.[93]

91. Scotus, *Opus oxon.* IV, d.11, q.3, (Wadding VIII, 653); Ockham, *Quodl.* II, q.10, (OTh IX, 161).

92. *Opus oxon.* IV, d.11, q.3, n.46, (Wadding VIII, 649).

93. *Ibid.*

Likewise, Ockham considers the objection that sensory and intellectual souls cannot be really distinct, because "there is only one existence (*esse*) for one composite; therefore, there is only one form for one composite."[94] He replies tersely, "...there is only one total existence of a man, but many partial existences."[95]

Given this distinction between complete and incomplete beings, they replace (T6) with

(T28) Nothing one *per se* can have many *complete* beings as constituents,

and proceed to explain the contrast between Socrates and a house or ship or heap of stones, on the one hand, and white Socrates on the other. Such artifacts and heaps are made up of many *complete* beings with certain spatial relations to one another. White Socrates is made up of one complete being—Socrates—and a really distinct accident—whiteness. But although Socrates himself is composed of four really distinct things, no one of them and no two or three of them constitute a complete being, but only more or less incomplete beings. Hence Socrates is a substance that is one *per se*, whereas the artifacts, heaps, and white Socrates are not.

## 5. SUMMARY

Both unitarians and pluralists reason that, given the Aristotelian analysis of substantial change, plants and animals must be resoluble into metaphysical constituents. They also agree that such constituents fit together in a "tighter" unity than do substance and accidents or the parts of artifacts and heaps. And both parties give a metaphysical translation of this intuition.

Aquinas starts with the conviction that the unity of created

94. *Quodl.* II, q.10, (OTh IX, 156).
95. *Ibid.*, (OTh IX, 161).

substances must somehow mirror that of the absolutely simple divine essence. One traditional argument for divine simplicity rests on the axiom that

(T29) parts are naturally prior to the whole of which they are a part;

that is, the whole depends for its existence on the existence of the parts but not vice versa. If God had parts, He would depend on them for His existence and they would not depend on Him, whereas God owes His existence to nothing and everything else is a product of His free and contingent volition (see Part Five, chapter 21 below). Aquinas reasoned that created substances that are one *per se* must resemble the divine essence in this respect: of not having constituents that are naturally prior to them. Yet, he thought, this condition is never satisfied where all of the constituents have an actuality of their own, the way the boards of a house or the stones in a heap do. Hence, he endorses

(T6) nothing one *per se* has more than one constituent that has an actuality of its own.

An angel is a composite of essence and existence (*esse*), but essence is related to existence as potency to act, and neither constituent could really exist without the other.[96] Further, in the composite essences of generable and corruptible substances, it is not the case that the constituents are naturally prior to the composite. For substantial form is that through which the composite has its existence and actuality; (T7) prime matter of itself is pure potentiality, and cannot exist apart from the composite. Thus, Aquinas hopes that his distinction between potentiality and actuality may provide a metaphysical explanation of how created substances are one *per se* in not being wholes to which (T29) applies.

In my judgment, some of the pluralist arguments (presented

96. *De substantiis separatis*, c.3, n.59, (Marietti, 1954, 26); *Summa theologiae* I, q.75, a.5, ad 1.

in section 3) should force hylomorphists to conclude that plants and animals are composed of a number of really distinct things. But (T28) notwithstanding, a price must be paid in a less satisfying account of their *per se* unity. For in endorsing (T25) and (T26), pluralists have turned composite substances into wholes that are naturally posterior to their parts.

# 16

# Matter, Quantity, and Individuation

Ockham's account of the relation of prime matter to quantity and individuation follows from his general views about quantity and individuation, and is among the unique features of his hylomorphism. Like other stuffs, prime matter is naturally extended apart from the inherence of any really distinct quantitative forms; it is continuous and infinitely divisible (see Part One, chapter 6 above). Prime matter of itself is a thing (*res*) with its own actuality. It is no more common or universal than any substantial form is (see Part One, chapters 2–4 above), but is just as concrete and determinate as the actual elements earth, air, fire, and water are. And just as clay is divided by the artist who molds different parts of it into a statue or a vase, so prime matter is divided when efficient causes introduce distinct substantial forms or multiply the same substantial form into different parts of it.

When contrasted with that of Aquinas, Ockham's position is striking and remarkable, and it has elicited contradictory comments in the secondary literature. According to Ernest Moody, the contention that material substances are extended of themselves apart from any really distinct quantitative forms, anticipates the Cartesian identification of extension as the essence of material things, whereas James Weisheipl argues that Ockham's rejection of really distinct quantitative forms ruled out any mathematical approach to the physical sciences.[1] I shall return to these claims at the end of the chapter. To be in a posi-

1. Ernest Moody, "William Ockham," *Encyclopedia of Philosophy* VIII, 306–17, and James Weisheipl, "The Place of John Dumbleton in the Merton School," *Isis* L (1959): 439–454.

tion to evaluate them, I shall first set out Aquinas's influential and competing theory, together with Scotus's and Ockham's criticisms of it. Then I shall give a fuller statement of Ockham's own views and attempt to place them in some kind of perspective.

## 1. AQUINAS ON MATTER, QUANTITY, AND INDIVIDUATION

Where composite substances are concerned, there can be more than one particular per species. And Aquinas joined other moderate realists in reasoning that if they share the nature or species, each must also contain a metaphysical constituent that makes it distinct from the others. But what could this so-called "principle of individuation" be?

Matter was one plausible candidate. If prime matter is the ultimate subject of inherence, won't the individuation of composite substance be explained in terms of the distinction among ultimate subjects of inherence? After all, Aristotle had said that "their number is one whose matter is one," and some drew the conclusion that "their number is many whose matters are many."[2] Yet, Aquinas argues that prime matter cannot individuate substances by itself. For, considered in itself and bare of all forms, prime matter is as indeterminate and determinable as the nature is[3]—even more so, for as the substratum of substantial change, matter is mentioned in the definition of every generable and corruptible nature.

Another promising candidate for the role of individuating principle was dimensive quantity. Would not the numerical distinction of Socrates from Plato be adequately explained by the fact that they are of different sizes, shapes, and locations? Apparently, Aquinas thought it *naturally* impossible for two

2. *Metaphysics* V, 9, 1018a9–11, argument cited by Aquinas in *In Boethii de trin.*, q.4, a.2, (Decker ed., 137).

3. *Ibid.*, q.4, a.2, n.6, (Decker ed., 142–43); *De ente et essentia*, c.2, (Roland-Gosselin ed., 10–11); *Summa theologiae* I, q.75, a.7.

things to be located in the same place at once. And he several times suggests that if the parts of dimensive quantity could exist of themselves, they would be numerically distinct of themselves.[4] Nevertheless, Aquinas argued that dimensive quantity by itself could not account for the individuation of composite substances. For Aristotle had held that

(T1) substance is naturally prior to accident.[5]

There is a one-way dependence of accidents on substance for their existence and unity. As Aquinas explains, an accident "does not have absolute existence or unity, but depends for its unity on that in which it inheres."[6] If dimensive quantity were the principle of individuation for composite substances, however, the latter would depend on the former for their existence and unity, and accidents would be naturally prior to substance after all.

If neither prime matter nor dimensive quantity can individuate composite substances all by itself, Aquinas thought they would in combination. For as the ultimate subject of inherence, prime matter shares with particular substances the feature of being logically incapable of inhering in anything.[7] And although matter of itself is altogether indeterminate and determinable with respect to the inherence of any form, as well as to being a metaphysical constituent of this or that particular, the parts of dimensive quantity are somehow distinct of themselves. The inherence of dimensive quantity in prime matter could make it divisible into numerically distinct subjects of inherence; and the inherence of humanity in numerically distinct subjects of inherence would then result in the existence of numerically distinct particular men. Thus, Aquinas con-

4. *In IV Sent.* d.12, q.1, a.1, (Parma VII, 655); *In Boethii de trin.*, q.4, a.2, ad 3, (Decker ed., 144); *Summa theologiae* III, q.77, a.2.

5. *Metaphysics* X, 1, 1052a33, cited by Aquinas, *In Boethii de trin.*, q.4, a.2, (Decker ed., 138).

6. *In I Sent.*, d.9, q.1, a.2, (Parma VI, 86).

7. *Summa theologiae* III, q.77, a.2.

cludes, it is not prime matter alone, nor dimensive quantity alone, but "matter signed by quantity" that is the principle of individuation.

This solution to the problem of individuation runs into immediate difficulties, however. For Aristotle says that substance is the subject of accidents, and prime matter of substantial form. Yet, Aquinas's account suggests that the accident of dimensive quantity inheres in prime matter prior to the specific forms of man or cow.

In an early passage from his *Sentence*-commentary, Aquinas handles this issue easily by assuming two distinct substantial forms in each composite substance—the generic form of corporeity and a specific form—of which the former inheres in matter prior to, the latter posterior to dimensive quantity. He reasons that since "there is no diversity in prime matter considered insofar as it is bare of all forms," "it is necessary that the first substantial form perfect the whole matter."[8] The inherence of the form of corporeity in the whole of matter produces accidents in it: "indeterminate" dimensions that extend the compound so that one part has a location spatially outside that of the other, like a giant cookie dough without determinate spatial boundaries. Different specific forms can then inhere in different parts of the matter or the same specific form in more than one part, thereby producing numerically distinct composite substances. The specific forms, like cookie cutters applied to the dough, divide the extended matter into parts with determinate boundaries, the particular size and shape varying from species to species. Thus, the form of elephant will occupy a volume of a larger size than and different shape from that carved out by the form of mouse.

Aquinas could not stick with this explanation, however, because he vigorously rejected any plurality of substantial forms in a single substance, and held that a single substantial form has a plurality of organizing effects on the matter, including those attributed by others to an essentially distinct form of corporeity

8. *In I Sent.*, d.8, q.5, a.2, (Parma VI, 79).

(see chapter 15 above). He tries to salvage his general strategy by observing that some such effects are logically presupposed for the others and hence that the former are 'understood' in matter prior to the latter. Thus, he writes that

> consequent to each genus are its proper accidents. Therefore, just as matter is understood perfect with respect to existence before corporeity is understood, so the accidents that are proper to being are understood before corporeity is understood...[9]

and those proper to corporeity before those proper to humanity or bovinity. Returning again to the problem of how dimensive quantity functions in individuation, he writes,

> ...quantitative dimensions are accidents that are consequent to corporeity which pertains to the whole of matter. Thus, matter, already *understood* under corporeity and dimensions, can be *understood* as distinct in different parts, so that it thus may receive different forms according to further degrees of perfection. For although it is the same form *according to its essence* that attributes different degrees of perfection to matter, as was said, nevertheless it is different *according to the consideration of reason.*[10]

Aquinas's idea is that even though the form of corporeity and the form of humanity are not really distinct but really and essentially one and the same, there is a distinction of reason between them. Since according to the consideration of the intellect, the form of corporeity inheres in matter prior to and specific forms posterior to quantitative dimensions, the latter can serve to make possible the inherence of different specific forms in prime matter and help to individuate particulars of the same species from one another—and this without quantitative dimensions inhering in matter prior to every or any substantial form. Towards the end of his *Sentence*-commentary, Aquinas goes so far as to suppose that such priority of understanding is sufficient to fall under the rubric "when the posterior is removed, the prior can

9. *Summa theologiae* I, q.76, a.6, ad 1; cf. *In II Sent.*, d.3, q.1, a.4, (Parma VI, 415–16); *In IV Sent.*, d.12, q.1, a.2, (Parma VII, 659).

10. *Summa theologiae* I, q.76, a.6, ad 2, (italics mine).

still remain,'' and he concludes that the quantitative dimensions can remain the same through the generation or corruption of the composite.[11]

## 2. OBJECTIONS TO AQUINAS'S ACCOUNT

Aquinas's revised account of the relation between matter, quantity, and individuation met with four principal objections, however. (2.1) *Priority of Understanding Is Not Enough.* Ockham would find it incoherent insofar as it starts from the mistaken notion that what is really one and the same is distinct in reason (see Part One, chapter 2 above) and then proceeds to treat the distinction of reason as if it were a real distinction after all. For a substantial form must really inhere in the matter if it is to produce any effects in it—whether by working it up into a corporeal substance or by producing accidents of dimensive quantity in it. According to Aquinas's unitarian position, however, it is the specific form that produces all of these effects. It follows that the real inherence of a specific form in matter is logically presupposed for the division of that matter into parts in some of which the specific form in question does not inhere—which is contradictory. On the other hand, if we suppose that only one specific form really inheres in matter, it follows that all composite substances are of the same most specific species—which is likewise absurd.

(2.2) *Accidents Are Not Naturally Prior to Substance.* Even if Aquinas's unitarian theory explained how dimensive quantity could extend matter prior to the inherence of specific form, the resultant theory would still contradict the Aristotelian dictum that

(T 1) substances are naturally prior to accidents.

The claim that dimensive quantity is only part of what individuates does not erase the implication that particular sub-

11. IV, d.44, q.1, a.1, q.3, ad 3, (Parma VII, 1073–74).

stances depend on accidents for their existence.

(2.3) *Dimensive Quantity Is Inadequate to Individuate.* Reacting to the similar position of Aquinas's disciples, Scotus argues that the accident of dimensive quantity is unsuited to play a role in individuation on two grounds. (2.3.1) First, Scotus insists that only what is distinct and determinate of itself can individuate, and explicitly rejects any nontrivial versions of the Identity of Indiscernibles according to which properties, no one of which could individuate by itself, individuate in combination, maintaining that "no matter what common things are simultaneously conjoined, it is never incompatible with the whole aggregate of itself that it should exist in something other than that in which it exists."[12] It follows that no accident can individuate material subjects of inherence unless the parts of that accident are numerically distinct from one another of themselves. Of course, Aquinas defends his choice of dimensive quantity on the ground that "quantity is the only accident that has its own reason of division in itself."[13] Scotus insists, however, that quantitative forms are of themselves just as specific and therefore indeterminate and determinable with respect to this particular or that, as any others. We can with as much right ask how the situation of this quantity differs from the situation of that quantity, as how the situation of this body differs from the situation of that; and just as well ask how this quantity differs from that, as how this flesh differs from that. And the properties of being a line or being a surface or being located in place are just as common as the properties of being flesh or being a man are. Scotus concludes that since quantity of itself is just as common as any other accident, it cannot individuate material subjects of inherence or anything else.[14]

(2.3.2) Suppose for the sake of argument that the parts of dimensive quantity were distinct and determinate of

12. *Quaest. subtil. Metaphysicorum* VII, q.13, (Wadding IV, 699, 704–705); cf. a similar objection to accidents' individuating cited by Aquinas in *In Boethii de trin.*, q.4, a.2, (Decker ed., 138).

13. *Ibid.*, q.4, a.2, ad 3, (Decker ed., 144).

14. *Ord.* II, d.3, p.1, q.4, n.103–104, (Vaticana VII, 441–42).

themselves. Still, Scotus contends, matter signed by dimensive quantity could individuate composite substances, only if having this particular matter and certain quantitative dimensions rather than others was both necessary and sufficient for distinguishing that substance from other particulars of the same species. He argues that this is not the case, however, whether prime matter and dimensive quantity are taken separately or together. (a) Scotus draws on an example from Aristotelian physics to show that they are not—whether individually or jointly—logically sufficient. He considers a case in which a given volume of water is changed to fire and back to water again. Such changes—of water to fire and fire to water—count as instances of generation and corruption. And since the matter is numerically the same in the thing generated and corrupted, it follows that the matter in the initial and final volumes of water as well as that of the intervening fire are numerically the same. Likewise, we can assume that the initial and final volumes of water are of equal size and occupy the same location. Nevertheless, Scotus plausibly contends, the initial and final volumes of water are numerically distinct. It follows that neither having the same matter nor having the same dimensive quantity nor having both the same is logically sufficient for the identity of particulars of the same species.[15]

(b) Nor are they individually or jointly logically necessary for the simple reason that numerically the same thing can have different sizes, shapes, and/or locations at different times.[16]

Here Aquinas might reply that matter signed by dimensive quantity is both logically necessary and sufficient for individuating *simultaneously existing* particulars of a given species. Again, what makes this matter a numerically distinct subject of inherence from that matter, is that at any given time *t*, this matter has a different location in place at *t* from that matter

15. Scotus applies this argument to quantity in *Ord.* II, d.3, p.1, q.4, n.100, (Vaticana VII, 439–440), and to matter in d.3, p.1, q.5, n.141, (Vaticana VII, 463). A similar argument is found in *Quaest. subtil. Metaphysicorum* VII, q.13, (Wadding IV, 700).

16. *Ord.* II, d.3, p.1, q.4, n.78, (Vaticana VII, 427–28).

at *t*. Both of these claims are consistent with the fact that the same thing may have different sizes, shapes, and locations at different times, as well as the supposition that different things have the same matter and location at different times. Nor do they conflict with the hypotheses that the same matter may be in different places at different times and different matters in the same place at different times.

Scotus considers a similar suggestion at least once, but gives it an unfavorable review. If what individuates substances is not merely matter, but matter insofar as it is in a certain place at a certain time, then time will have a role in individuating. Indeed, Scotus allows that "time individuates more" than matter does.[17] But he denies that it, either alone or together with dimensive quantity, can do the job, insisting that "substance in itself is not measured by time"[18]—presumably by (T1). He could have added that like all other accidental forms, temporal location of itself is not distinct and determinate but common and determinable. Insofar as he rejects the Identity of Indiscernibles, he will not allow that temporal location or spatiotemporal location can individuate any better than quantitative dimensions can. His conclusion is that composite substances are individuated by a positive entity other than matter and substantial or accidental forms, which is distinct and determinate of itself,[19] and which he sometimes labels "thisness."

(2.4) *Quantity Cannot Make Matter Divisible*. Aquinas assumes that matter of itself is indivisible and becomes divisible and/or divided only through the inherence of quantitative forms. Scotus and Ockham argue that this cannot be so, because

(T2) there is a proper proportion between a form and its subject of inherence,

so that the form is either whole in the whole subject and part in each part, or whole in the whole subject and whole in each part.

17. *Quaest. subtil. Metaphysicorum* VII, q. 13, (Wadding IV, 700).
18. *Ibid.*
19. *Ord.* II, d.3, p.1, q.5–6, n.170, (Vaticana VII, 475).

Hence, the division of prime matter into such parts cannot be a consequence of the inherence of any form, since the former is presupposed by the latter and not the other way around. Thus, Ockham writes,

> ...just as the whole matter is presupposed for the whole form received into it, so part of the matter is presupposed for part of the form, and diverse parts of matter are presupposed for diverse and distinct parts of form. Consequently, the distinction of parts of matter does not arise from the distinction of parts of form, but is presupposed for it.[20]

And in *Reportatio* IV, q.6, he tells us that the division of matter into parts does not depend upon its extension, since the distinction among its parts survives even when they are not located at a distance from one another. Scotus, too, maintains that prime matter is initially divided into essential parts in and of itself.[21] In contrast with Ockham, Scotus believes that there are quantitative forms, but he sees their function as that of extending the matter or placing its essential parts at a distance from one another.[22] But if—as Scotus deems logically possible—prime matter were to exist bare and denuded of all forms, its essential parts would exist unextended and it would exist in place, not circumscriptively, but definitively.[23]

## 3. OCKHAM ON EXTENDING AND COUNTING MATTER

By now, it is clear that Aquinas and Ockham are far apart in their conceptions of prime matter. Although both introduce prime matter as the analogue in substantial change of the stuff or material on which the artist imposes some form or structure, Aquinas's theory turns prime matter into a metaphysical princi-

20. *Summulae Physicorum* I, c.18, (OPh VI).

21. *Opus oxon.* II, d.12, q.2, (Wadding VI, 682).

22. *Ord.* II, d.3, p.1, q.4, n.105–109, 114–15, (Vaticana VII, 443–45, 447–48).

23. *Opus oxon.* II, d.12, q.2, (Wadding VI, 683).

ple which—unlike bronze or wood—is of itself pure potentiality with no actuality of its own. Not even God could make or think of it otherwise than as a constituent of a composite substance (see chapter 15 above). Further, prime matter itself is not a concrete, determinate stuff the way this piece of bronze is, but is altogether indeterminate and determinable. Included as it is in the essence of every material thing, prime matter of itself is more common than any substantial form. Likewise, prime matter of itself is altogether unextended and is extended only by the inherence of really distinct quantitative forms. The only feature it shares with ordinary stuffs such as bronze or wood is that it is a subject of inherence and cannot exist in anything else as in a subject.

Scotus takes an important step away from this picture when he contends that prime matter must be a positive principle with an actuality of its own. But he agrees with Aquinas that prime matter of itself is just as common as any substantial form, and holds that it can really exist only when contracted by a haecceity (see Part One, chapter 2). And he concurs that only really distinct accidents of quantity can extend anything—whether prime matter, substantial form, or their composite.

(3.1) *Matter and Extension in Ockham.* Ockham's view of the relation between prime matter and quantity is dominated by his conviction (examined at length in Part One, chapter 6) that there are no such things (*res*) as quantitative forms: the only things there are, are particular matter, particular substantial and qualitative forms, and God. Thus, he writes,

> ...'extension' or 'quantity' does not signify any absolute or relative thing beyond substance and quality, but it is a certain word or concept that signifies substance principally—say matter or form or corporeal quality—and connotes many other things between which there can be locomotion, in such a way that it signifies a substance or quality that coexists with many extrinsic things between which there can be locomotion if such extrinsic things exist...[24]

For a thing to be extended is simply for its essential parts to be at

24. *Rep.* IV, q.6, (OTh VII, 72).

a distance from one another—which is not effected through the inherence of any forms of quantity. Rather "...matter of itself has one part in one place and another in another place. Therefore, it is quantified of itself..."[25]

Given that matter of itself has some extension or other, just as the various substantial and qualitative forms do, Ockham sees no objection to saying that matter is body, if 'body' is used broadly to signify *whatever* has three dimensional extension and not merely extended composites of matter and form.[26] Likewise, extended matter and extended form are equally continuous and infinitely divisible. To say that a thing is infinitely divisible is to say that no matter how many times the thing has been divided, it can be divided again, but not to imply that it is logically possible for all of these divisions to be effected at once or for them to be finally completed at some time.[27] Nevertheless, Ockham insists that anything continuous *actually* has infinitely many parts, even if they are not actually separated from one another. Thus, extended prime matter, as infinitely divisible, has infinitely many parts of itself.

In his commentaries on Aristotle's *Physics*, Ockham maintains that matter is necessarily and always extended. Thus, he writes,

> ...It must be known, however, that even though 'Matter is extended' is a proposition *per accidens*, where '*per accidens*' is contrasted with '*per se* the first way', nevertheless, it is necessary and always true and *per se* the second way. For it is impossible that matter should lack extension, since it is impossible that matter should exist without having one part at a distance from another. Thus, although the parts of matter could be united the way that the parts of water and the parts of air can be united, nevertheless, the parts of matter can never be in the same place. Therefore, matter always has one part at a distance from another...[28]

25. *Summulae Physicorum* I, c.19, 24, (OPh VI); cf. *Expos. Physicorum* IV, t.47, (OPh V); *Rep.* IV, q.6, (OTh VII, 72).

26. *Expos. Physicorum* I, c.15 [190b10] t.63, (OPh IV); IV, t.47, (OPh V); *Rep.* IV, q.6, (OTh VII, 72).

27. *Expos. Physicorum* III, t.56–57, (OPh IV).

28. *Summulae Physicorum* I, c.19, 23, (OPh VI).

Ockham's argument that matter is necessarily extended makes the tacit assumption that matter must be in place. Since matter of itself has distinct essential parts (see section (2.4) above), either its parts are all in the same place, or they are all in different places. As Ockham sees it, Aristotle would reject the first disjunct as impossible and assert the second as necessary. Although necessary, 'Matter is extended' is not analytic or *per se* the first way. Ockham says it is *per se* the second way, presumably because everything extended would have been thought by Aristotle to have a necessary relation to prime matter: either it is prime matter, or a composite of prime matter and substantial form, or a substantial form that inheres in prime matter, or a qualitative form that inheres in an extended substance.

According to Ockham, Aristotle maintained that every particular prime matter necessarily has some extension or other, but there is no determinate extension that it has necessarily. This follows from the conjunction of several putative Aristotelian claims: viz., (i) that prime matter remains numerically one in the thing generated and corrupted; (ii) that there is no form that prime matter has necessarily; and (iii) that different substantial forms presuppose different densities and hence different extension in the prime matter they inform. Since earth is a denser stuff than water and water than air, the form of earth presupposes a denser matter than the form of water, and the form of water than the form of air.[29] Thus, since prime matter does or can have different substantial forms inhering in it at different times, it does or can have different extensions at different times.[30] At any given time, a particular prime matter has the determinate extension presupposed in it by the substantial form inhering in it at that time. And Ockham insists, no doubt mistakenly and contrary to Aquinas, that these are the only points Averroes wished to make when he spoke of indeterminate dimensions in matter prior to the advent of substantial form:

29. *Ibid.*, c.19, 24, (OPh VI).
30. *Summulae Physicorum* I, c.19, 24, (OPh VI).

> ...And the indeterminate dimensions that the Commentator talks about ought to be understood in this way—not that the indeterminate dimensions are certain things without limits that come to matter; but that matter is not of itself or necessarily of any certain quantity—e.g., this extended matter is not necessarily one foot in quantity or two feet in quantity. Rather it is of greater or lesser quantity, depending on the dimension or diversity of the substantial form...[31]

Ockham explains that the efficient cause of the substantial change alters the dimensions of the prime matter, giving it the density appropriate to the new substanial form. He describes this process as follows:

> ...when the natural agent introduces a substantial form into matter, it predisposes the matter by condensing or rarifying it. When the matter has been rarified or condensed enough, according to the sort of form to be introduced, the substantial form is introduced. When this has been done, the agent continues for a perceptible time to rarify or condense the matter and likewise the form, until the limit appropriate to such a form is reached. Thus, matter is not made to be of greater or lesser quantity by the succession of absolute accidents in it, but through condensation and rarefaction alone...which can be effected through the mere locomotion of the parts of matter...[32]

Thus, matter is given the determinate extension it has, not through the inherence of the substantial form, but by the action of the efficient cause which moves the parts in such a way as to make the inherence of that substantial form possible.

The contention that matter is necessarily extended, but its determinate extension at a given time depends upon which substantial form inheres in it at that time, naturally gives rise to the question, what determinate extension would prime matter have if it had no forms inhering in it? When Ockham confronts this issue in the *Summulae Physicorum*, his reply on Aristotle's behalf is that matter cannot exist without having any substantial form at all inhering in it. He then allows that if a philosopher admitted that it could, he would have to hold that while the determinate extension of matter naturally depends on which substan-

31. *Ibid.*
32. *Ibid.*, c.19, 24–25.

tial form inheres in it, this is not necessarily the case. And "...if matter were separated from every substantial or accidental form, it would be of a certain quantity which would pertain to it by nature or by the action of the agent."[33] That is, either there is a naturally appropriate size or shape for formless matter to have, or formless matter simply has the determinate size given it by the efficient cause that produces or denudes it.

Like Scotus, Ockham would probably have granted that prime matter can exist without any substantial form inhering in it. Presumably, if God actualized that possibility, He could assign it any determinate extension He wished. In *Reportatio* IV, q.6, however, Ockham goes further and denies the allegedly Aristotelian claim that matter is necessarily extended. Accordingly, he retracts the premiss that distinct parts of matter cannot simultaneously occupy the same space. He writes,

> ...when something dense is made from something rarified, the parts of the rarified thing first coexisted with many parts of place, and now the same parts coexist with one place, as was clear earlier...[34]

Thus, whenever matter is condensed, some of its parts, which earlier existed at distinct places, come to exist simultaneously at the same place. Once Ockham has accepted the idea that distinct parts of a thing can exist in the same place simultaneously, it is an easy step to the general principle that

(T3) ...whatever is such that it is not inconsistent for it to be under greater or lesser extension, is such that it is not inconsistent for it to exist without any extension...[35]

Therefore, since matter as the substratum of substantial change can be of greater or lesser extension, it can also exist altogether unextended. Apparently he does not envision this logical possibility's being actualized in the natural course of things by created agents, but it can be so by divine power.

33. I, c.19, 24, (OPh VI).
34. (OTh VII, 79–80).
35. (OTh VII, 79).

(3.2) *How to Count (Parcels of) Prime Matter(s).* If prime matter is naturally an extended stuff the way earth, air, fire, and water are, it can also be divided into countable parcels or quantities of matter. Actually, Ockham's way of talking obliterates any distinction between count-nouns and mass-nouns: he counts, not parcels or quantities of stuffs or prime matter, but stuffs and prime matters. For instance, he speaks of "two waters," rather than two glasses of water or volumes of water, combining to make numerically one water.[36] Having thus assimilated stuffs to things as alike countable, Ockham not surprisingly advances the following principle:

(T4) Each generated composite has its own prime matter that is numerically distinct from the prime matter of any other simultaneously existing generated composite.

He writes,

> It must be said, therefore, that the principles of generation and corruption are not universals but particulars that are numerically many in diverse things in such a way that the form of this generated thing is the first principle of this generated thing, and that the form of another generated thing is the principle of that. So it is with matter. For my prime matter is one prime matter and your prime matter is another etc...[37]

Or again, introducing the conclusion he wishes to prove, Ockham states that

> this prime matter is of the same kind in all composites, but is not numerically one in all composites. Indeed, in all simultaneously existing generated things, there are diverse prime matters, distinct in number or different in the way that diverse whitenesses differ...[38]

Ockham's suggestion is that we should number the prime matters of composite things such as human beings or donkeys, just

36. *Summulae Physicorum* I, c.15, 19, (OPh VI).
37. *Ibid.*, c.14, 18, (OPh VI).
38. *Ibid.*, c.18, 22, (OPh VI).

as we number those things; and we should number the prime matters of physical stuffs, just as we number the stuffs. (T4) is restricted to the prime matters of simultaneously existing composites, because "prime matter," as the substratum of substantial change, "is numerically one in what is generated and corrupted."[39] Hence, successive composites, one of which is generated, directly or indirectly from the other might well have numerically the same prime matter. For example, the prime matter of Beulah the cow and that of her corpse are numerically the same.[40] Thus, despite wide disagreements about the ontological status of prime matter (see chapter 15 above), Aquinas and Ockham seem to share the picture of matter as extended into a giant cookie dough that gets divided into numerically distinct matters with determinate boundaries by substantial forms that function as cookie cutters!

Ockham defends (T4) with two arguments. (3.2.1) *The Argument from Distinct Places*. The first takes off from the Boethian axiom that numerically one thing cannot exist in many distinct places at once. Ockham writes,

> This prime matter is not numerically one in everything that can be generated and corrupted. For my matter is not the same as your matter. Nor is anything imaginable numerically the same in a man and a donkey, since (i) nothing extended could exist simultaneously in many places. Therefore, since (ii) prime matter is truly extended, (iii) it will not be able to be numerically the same in those distinct in subject and place...Therefore, (T4) there are different matters of different things...[41]

We have already seen (in Part One, chapter 6 above) that Ockham does not regard premiss (i) as a necessary truth. For he writes in *Reportatio* IV, q.6, that

> ...there seems to be less difficulty in a body's being in distinct places in

39. *Ibid.*, c.15, 19, (OPh VI).

40. *Expos. Physicorum* III, t.26, (OPh IV); cf. *Summulae Physicorum* I, c.18, 22–23, (OPh VI).

41. *Expos. Physicorum* I, c.18 [192a34] t.82, fol.15ra, (OPh IV).

> such a way that the whole is in the whole and part in the part than that it should be in distinct places in such a way that it is whole in the whole and whole in any part. But the second we have from Faith. Therefore, the first is possible...[42]

Aristotle may have believed (i) necessary, because he did not countenance the possibility of transubstantiation. But Ockham can consistently maintain only that (i) expresses a fact, and not that distinction in place is logically sufficient for individuation.

The principal trouble with the argument lies elsewhere, however: viz., in how to apply premiss (i) where the individuation of something essentially stuff-like is concerned. If a stuff is continuously extended through a volume, and the volume is—according to Aristotle and medieval consensus—infinitely divisible, is there one (parcel of) stuff for the whole volume with infinitely many distinct parts that combine to make one stuff *per se*? Or are there infinitely many distinct (parcels of) stuff(s)? And what reason do we have to give one answer rather than another? Given the Aristotelian assumption that there is no vacuum, it would seem that prime matter is continuously extended through every place in the whole material world. What reason could there be against saying that there is in the material world numerically one prime matter which is infinitely divisible into distinct parts that combine to make one prime matter *per se*? (iii) would then be true about the parts of this prime matter, but not of the prime matter itself.

(3.2.2) *The Argument from Incompatible Forms*. Ockham's second argument seems designed to offer a reason for distinguishing composites and prime matters that does not depend on distinct spatial locations:

> ...(iv) Numerically the same thing is not simultaneously the subject of incompatibles, just as the same thing is not simultaneously the subject of contraries either. But (v) certain forms are mutually incompatible—e.g., the form of fire and the form of air. Therefore, (vi) numerically the same prime matter is not simultaneously the subject of these forms...[43]

42. Cf. (OTh VII, 98); cf. (OTh VII, 103–104).
43. *Summulae Physicorum* I, c. 18, 23, (OPh VI).

The reason Socrates' prime matter is numerically distinct from that of Brownie the donkey is, allegedly, that the substantial form of man is incompatible with the substantial form of donkey. Likewise, it would seem that numerically distinct substantial forms of the same species would be relevantly incompatible. Again, the prime matter of the vinegar is numerically distinct from the prime matter of the adjacent oil in the bottle, because the substantial form of vinegar is incompatible with the substantial form of oil.

Yet, the thesis that prime matter is numerically one throughout the whole universe will be ruled out, only if (iv) applies to a whole that is infinitely divisible into parts that unite to make something one *per se*. The corresponding rule about contraries precludes anything being black all over and white all over at once, but not something being partly black and partly white at once. Why, then, cannot numerically one prime matter be partly donkey and partly human at once?

Ockham does not address himself to this question explicitly, but I think he would be forced in replying to appeal to the following disanalogy: accidental forms such as whiteness or blackness combine with their subjects to yield something one *per accidens*, but a substantial form combines with its prime matter to make something one *per se* (see chapter 15 above). Likewise, the parts of an extended whole combine to make something one *per se*, (see Part One, chapter 6 above). If the prime matter of the material universe were regarded as a single whole whose parts unite to make something one *per se*, then different parts of one prime matter *per se* would make one *per se* with the substantial form of donkey and the substantial form of man, respectively. Although the latter consequence is not obviously contradictory, it would be understandable if Ockham had found it metaphysically anomalous. For he has vehemently rejected the notion that numerically the same thing exists simultaneously in numerically distinct particulars of the same genus or species because it seemed to compromise the ontological independence of one particular from another (see Part One, chapter 2 above). To allow that the prime matter of Socrates, Brownie, and Plato combine to make something one

*per se* would seem to be an alternative, if shorter, step in the same direction and hence sufficiently, if not equally, repugnant to him!

## 4. OCKHAM'S THEORY OF MATTER: PROGRESSIVE OR REACTIONARY?

Thus, Ockham—both in his own theory and in his interpretation of Aristotle—sees himself as recalling prime matter from its exile as a metaphysical principle of diminished ontological status to its "rightful" place as a naturally extended, fully actual stuff, which is an essential ingredient in all material substances. The putative Aristotelian thesis that prime matter of itself is necessarily extended invites comparison with the Cartesian claim that the material universe consists of matter that is extended by its very nature and not by any really distinct, inherent accidental forms.

Ernest Moody thinks Ockham's theses that qualities are, but quantities are not really distinct from and inherent in substance, dictate this comparison; he writes,

> ...similarly, Ockham's treatment of sensible qualities as entities distinct from substances (and by the power of God separable, as in the Sacrament of the Altar), along with his contention that quantitative predicates signify nothing other than substances having parts outside of parts, pointed the way to the seventeenth century treatment of qualities as secondary and quantitative attributes as primary...

and

> ...Many pages of Ockham's works are devoted to the thesis, defended with an almost ferocious intensity, that quantity is not any entity other than substance (or quality), but *is* substance or sensible qualities as divisible into parts, or as numerable. This doctrine clearly suggests the later view that the primary qualities signified by quantity terms constitute the real essence of substances.[44]

44. "William Ockham," *Encyclopedia of Philosophy* VII, 313.

In the second passage, Moody's idea is that no one who thought of quantity as a form really distinct from substance could come to identify quantity as the essence of a substance, since by definition the existence of quantity would be logically independent of that of substance. In denying that quantity is a form really distinct from substance and quality, Ockham is removing that logical barrier to identifying the essence of material things with extension. Likewise, in the first passage, Moody seems to be reasoning that no one who believed it logically impossible that a physical substance should exist without any qualitative forms (and hence without color, flavor, odor, etc.), could identify the whole essence of material substances with extension. In maintaining that qualitative forms are really distinct from substances, Ockham has removed still another obstacle to the Cartesian position. Thus, his ontology "pointed the way to the seventeenth century treatment" of extension as primary and "suggests" the doctrine that it constitutes the whole essence of body.

The Cartesian polemic against medieval hylomorphism makes Moody's hypothesis attractive. After all, medieval Aristotelianism regarded prime matter and substantial forms as theoretical entities posited to explain various empirically observable phenomena such as the death of a cow. In addition, substantial forms were supposed to explain how it was that a given hunk of matter came to be appropriately organized and structured to function a certain way. The substantial form of fire is that which by its very nature explains why fire heats, and the substantial form of cow is that which by its very nature explains why Beulah "bovinizes". Accidental forms were assumed to explain why the resultant thing functions or produces effects that it could exist without. Substantial and accidental forms are thus primitive explanatory principles that are supposed to explain the empirically observable range of effects and functions. Descartes aimed for a physical science with more general explanatory power than could be provided by Aristotelian hylomorphism with its overpopulation of primitives. (Hence the later joke that the drug causes sleep because it has dormitive power!) True, for Descartes as for Ockham's Aristotle, matter is

fully actual and necessarily extended. But, identifying the essence of all material things (except man) with extension, Descartes saw the giant cookie dough as cut up into distinct bodies, not by substantial forms, but by locomotion—body is a hunk of matter that moves together. And he hoped to find purely mechanical—if not geometrical—explanations of why given hunks moved or functioned as they did. Since the Aristotelian "proper sensibles," later called "secondary qualities"—color, flavor, odor, temperature, and sound—did not easily yield to such treatment, Descartes denies appearances and maintains their unreality.[45]

Ockham's general program of ontological reduction seems at first to put him in sympathy with such Cartesian moves. For his own opponents had held that change could only be explained in terms of the generation or corruption of a form and concluded that there were forms for every species under Aristotle's ten categories. Ockham countered that locomotion could explain many such changes and recognized forms only in the categories of substance and quality. Was he not appealing to the explanatory power of locomotion to erode hylomorphism?

Nevertheless, Moody's assertions—that Ockham's views about matter, quantity, and quality "suggest" or "point the way towards" seventeenth century conceptions of the physical world—are ambiguous as between the following four claims: (i) there are certain similarities between Ockham's views and seventeenth century views; (ii) understanding Ockham's position on these subjects would make a philosopher more apt to think of and make further moves in the direction of certain seventeenth century conceptions; (iii) thinking about Ockham's views in fact led other philosophers to take such theoretical steps; or (iv) Ockham himself saw his views about matter, quantity, and quality as bringing him closer to identifying the essence of physical substances with extension. While perhaps (iii) implies (ii), one of (i), (ii), or (iv) might be true without any of the

45. I owe this picture of the relation of Descartes to Aristotelian hylomorphism to a discussion with Paul Hoffman.

others being true. Moody himself is interested in (i) and (ii) and possibly (iii); nothing in his article suggests (iv).

Yet, if there are similarities between the Cartesian conception of *res extensa* and the conception of matter ascribed to Aristotle by Ockham, the differences between them are at least as striking, as a short catalogue will show. (a) First, no texts suggest that Ockham ever seriously thought of abandoning a hylomorphic conception of material things or of identifying their whole essence with extension. Nor does he ever seem on the verge of eliminating really distinct qualitative forms such as whiteness, blackness, heat, cold, bitterness, sweetness, etc. Indeed, his examples suggest that changes in them are among the chief things that science has to explain (see Part Two, chapter 12 above and chapter 17 below). And even if God could make any one of matter, substantial form, or qualitative form to exist without the other two, Ockham thinks that a material thing is naturally composed of prime matter, together with substantial and qualitative forms.

(b) Again, Descartes "elevates" extension to being the whole essence of body. Yet, in arguing that there are no such things as quantitative forms alongside substances and qualities, Ockham thought he was "downgrading" the ontological status of quantity relative to substance and quality rather than the reverse. Further, Ockham's claims about quantity apply equally to the exension of substantial and qualitative forms as to that of prime matter. And if Ockham's Aristotle could have been tempted to identify the essence of prime matter with extension—after all, what else is there to it, aside from its function of being a subject of inherence—he would have had no inclination to claim that shape or size is the essence of color or of the substantial form of vegetative or sensory soul!

(c) Finally, Ockham himself does not believe that matter is necessarily extended; for he is led by reflections on the Eucharist to find it logically possible for all of the parts of matter to exist in the same place at once.

Reflecting on Ockham's views about quantity, James Weisheipl concludes that when all is said and done, "Ockham and

Descartes are worlds apart."[46] And he challenges (ii), reasoning that

> ...for Ockham quantity is not a physical reality, but a noun, or term, which does not signify anything determinable over and above individual substances and qualities. For this reason Ockham reduces all problems of quantity to problems of grammar and logic, and he allows no room for the application of geometry and algebra to the physical world...[47]

Again, he remarks,

> ...Directed mainly by theological considerations, particularly of the Eucharist, Ockham refused to acknowledge any *res absoluta* in nature besides substance (matter and form) and sensible qualities, for these alone can exist autonomously by the absolute power of God; all other terms are linguistic descriptions of substance and sensible qualities. But this view eliminates among other natural characteristics, quantity and motion from the realm of scientific investigation and ushers such problems into the blind alley of linguistic analysis...[48]

We have seen in Part One above how such remarks miscalculate the consequences of Ockham's ontological program. For in eliminating quantity-and motion-things (*res*), Ockham does not intend to eliminate quantity-and motion-*facts* or to make them subjective or linguistic projections, but rather aims to *reduce* them to facts about how substances and qualities are.

Weisheipl's primary interest is in the historical question, however. And while a full-scale investigation of (iii) is beyond the scope of this chapter, it is worth noting two points that Weisheipl makes against it. The first is that Ockham himself took little or no active part in vigorous fourteenth century attempts to apply algebra or geometry to the description of physical changes. Second, there is no sign that Thomas Bradwardine and other fourteenth century Mertonians who worked

46. "The Place of John Dumbleton in the Merton School," *Isis* L (1959), 443.

47. *Ibid.*, 444.

48. *Ibid.*, 453.

intensively on this problem were in any way spurred in their work by a consideration of Ockham's ontology. On the contrary, as the work of Weisheipl and Maier indicate, natural philosophers often believed in quantity-things and motion-things really distinct from substances and qualities.

I conclude that both Moody and Weisheipl miscalculate the consequences of Ockham's elimination of quantity-things really distinct from substances and qualities. Although his theory of matter dramatically contrasts with that of Aquinas, his retention of substantial and qualitative forms makes his analysis of material things Aristotelian rather than Cartesian. The proposal to reduce substantial and qualitative forms to facts about how prime matter is—which Buridan deemed tantamount to the obscure and dangerous position of Melissus—never entered Ockham's mind. On the other hand, I find no reason to explain Ockham's lack of interest in applying mathematics to physics in terms of his ontology. If anything, it was his belief in substantial and qualitative forms rather than his rejection of quantitative forms that stood in the way of a successful Cartesian program of geometrical and mechanical explanations. Yet, the Mertonian mathematical physicists were also Aristotelians. And this fact should make historians wary of giving ontology too large a place in their psychological and historical explanations!

# 17

# Intensification and Reduction of Forms

According to Aristotle in the *Categories*, at least some qualities admit of more and less, while substances do not. Thus, "if this substance is a man, it will not be more a man or less a man either than itself or than another man."[1] But one thing can be more or less white than another and more or less white than itself at another time.[2] From these remarks, medievals inferred that for Aristotle being a man or a donkey does not come in degrees; consequently, the change from not being a man to being a man or from not being a donkey to being a donkey must be a sudden change (*mutatio subita*), which they label "generation" (see chapter 15 above). But what happens when a thing is first less white and then whiter, less hot and then hotter, or vice versa? And what happens when a thing changes from being white in some degree to being black in some degree, or from being hot in some degree to being cold in some degree? Are there maxima and minima of such qualities? Can any degree of contrary qualities such as white and black, hot and cold exist simultaneously in the same first subject? These are only some of the questions raised in the medieval debate about the increase and reduction of forms (*intensio et remissio formarum*). The variety of their answers, of which we shall examine seven, represents alternative developments of hylomorphism.

## 1. THE PARTICIPATION THEORY

Focus first on the question, what happens when $x$ becomes

1. Chap.5, 3b33ff.
2. *Ibid.*, 3b33ff; 10b26ff.

more *F* than it was before? Several answers suggest themselves. Perhaps the most obvious from the viewpoint of hylomorphism is that when *x* becomes more *F* than it was before, this is because the form of *F*-ness in *x* has increased. But numerous authorities seemed to tell against this view. For instance, Aristotle had said that forms are like numbers;[3] any addition to a number makes a different number. The same way, they reasoned, any addition to a form would vary the species. Since the *F*-ness in *x* is of the same species when *x* is more as when *x* is less *F*, it must not be that *x*'s becoming more *F* is a matter of anything's being added to the *F*-ness that existed in *x* before.[4] Similarly, the author of *Six Principles* says that form is a simple, invariable essence.[5] Consequently, whatever is involved in *x*'s becoming more *F* than it was before, it cannot be a matter of anything's being added to *F*-ness, since *F*-ness is not composite.

But if *F*-ness does not increase when *x* becomes more *F* than it was before, shall we say that *x* increases? Ockham replies that:

> it is obvious that the subject of the form is not increased. For when a man becomes more charitable after having been less charitable, it is obvious that the man is not increased...[6]

Probably, Ockham does not mean to deny that the subject ever increases when, e.g., it becomes whiter. But he wants to insist that this is not part of what constitutes its becoming whiter and is not a necessary accompaniment of the latter process.

Some were thus led to conclude that when *x* becomes more *F* than it was before, neither *x* nor *F*-ness increases, but *x*'s participation in *F* increases or *F*-ness becomes more rooted in the subject *x* than it was before.[7]

3. *Metaphysics* VIII, 3, 1043b32–1044 all.

4. Scotus, *Ord.* I, d.17, p.2, q.2, n.235, (Vaticana V, 253).

5. Scotus, *Ord.* I, d.17, p.2, q.2, n.238, (Vaticana V, 253); Ockham, *Ord.* I, d.17, q.6, (OTh III, 513).

6. *Ibid.*, q.4, (OTh III, 482); cf. (OTh III, 483, lines 8–10).

7. *Ibid.*, q.6, (OTh III, 498); *Rep.* III, q.8, (OTh VI, 262). In the first of these texts, Ockham has a reference to an opinion held by Aquinas that some forms admit of more and less of themselves, while others do not. The former

Ockham regards this appeal to the Platonic metaphor of participation inadequate. It does not really explain anything unless it is cashed in terms of "some variation either on the part of the subject or on the part of the form."[8] For by Ockham's principle (A'), "it is impossible to pass from contradictory to contradictory without any locomotion or the production or destruction of a thing."[9] But in many cases, when $x$ becomes more $F$ than it was before,

> everything remains in the same situation and place. Therefore, either something is destroyed or produced here. Certainly nothing is destroyed, unless it is assumed that something is produced. Therefore, something is produced here...[10]

Likewise, when it is said that

> after augmentation the form is more rooted in the subject than before. Therfore, the subject is more denominated white than before,

Ockham replies that "this rooting does not have any source unless it is in the form and in the subject." If both subject and form are supposed to remain the same, there will be no change in the rooting of the form in the subject either.[11]

include those accidental forms that are fixed in a species by virtue of their order or relation to something extrinsic—e.g., knowledge is supposed to be fixed in its species by virtue of its relation to its object. The latter are those whose species is not fixed by the relation of the form to something else but by the form itself, and include all substantial and some accidental forms. The latter forms cannot be increased by being added to, because any addition to them would vary the species. But the former can be increased by addition, since they are fixed in a species not of themselves, but by virtue of their order to something else. Ockham challenges Aquinas's contention that any form can be fixed in its species by anything extrinsic to it, and then rejects increased participation as an explanation of anything (*Ord.* I, d.17, q.6, (OTh III, (500ff)).

8. *Ibid.*, (OTh III, 506).
9. *Ibid.*
10. *Ibid.*
11. *Rep.* III, q.8, (OTh VI, 223).

## 2. THE GENERATION AND CORRUPTION THEORY

Some philosophers—apparently including Ockham's predecessor Godfrey of Fontaines and contemporary opponent Walter Burleigh[12]—were convinced that that a form could not be added to without varying the species, but thought they could explain the metaphor of increased participation by the subject in terms of the corruption of the old form and generation of a new one. When $x$ becomes more $F$ than $x$ was before, it is not that $x$ increases or that the form of $F$-ness that inhered in $x$ increases; rather the form that inhered in $x$ is corrupted and an equally simple, but nevertheless greater new form is produced in $x$. And it is by virtue of this new new form's inhering in $x$ that $x$ can be said to be more $F$ than $x$ was before.

Several arguments are advanced in favor of this opinion. (2.1) The first rests on the assumption that the process of augmentation by which $x$ becomes more $F$ than it was before is a species of continuous change or motion (*motus*), and

(B) The terms of motion are incompossible.

But when a man becomes, for example, more charitable than he was before, the lesser charity is *per se* or essentially the term from which this motion proceeds, and the greater charity is *per se* or essentially the term to which it proceeds. Consequently, by (B), the lesser charity and the greater charity are incompossible. Thus, the lesser charity is corrupted when the greater

12. Scotus extracts this position from the works of Godfrey of Fontaines and criticizes it in his *Ordinatio* I, d.17, p.2, q.1. Ockham's discussion of it in his own *Ordinatio* I, d.17, q.5, (OTh III, 485–490) seems to be heavily dependent on Scotus's treatment of it. In her monograph "Das Problem der Intensiven Grösse (*De intensione et remissione formarum*)," *Zwei Grundprobleme der scholastischen Naturphilosophie*, (Rome, 1951), Anneliese Maier notes Burleigh's conclusion in his commentary on Aristotle's *Categories* that "no form admits of more and less insofar as it is in a subject" (translated from her quote on 67). Burleigh defends the generation and corruption theory at length in his treatise *De intensione et remissione formarum*, c.4, (Venice, 1496).

charity is introduced, just as this theory says it is.[13]

(2.2) Similarly, it is agreed that

(C) Every form is apt to denominate its subject.

But given that,

> if the lesser and the greater charity exist at once, these two charities will denominate the same subject. Consequently, the subject will be called less charitable because of the lesser charity and more charitable because of the greater charity,[14]

which would be a contradiction.[15]

(2.3) Further, adherents of this opinion consider increase in qualities to be analogous to increase in quantities. But for reasons Ockham has laid out in his discussion of quantity (see Part One, chapter 6), the quantity—conceived of as a thing really distinct from substance and quality—cannot remain the same when something is condensed or rarified; rather the old quantity must be corrupted and a new one produced. Consequently, the same goes for an increase in quality.[16]

Neither Scotus nor Ockham is convinced by these arguments, however. (R2.1) So far as the first is concerned, they agree with (B), if it is understood to assert that what are *per se* and essentially the terms of a given motion are incompossible. But Godfrey's and Burleigh's arguments depend on the further identification of the lesser and the greater charities as the relevant terms of the motion; while Scotus and Ockham insist that it is the privation of the greater charity, not the lesser charity, that is *per se* and essentially the term from which the motion proceeds; the greater charity, *per se* and essentially the term to which the

13. Ockham, *Ord.* I, d.17, q.5, (OTh III, 485); cf. Scotus, *Ord.* I, d.17, p.2, q.1, n.199, (Vaticana V, 235), quoted from Godfrey of Fontaines, *Quodlibeta* XIV, q.5, and found in Walter Burleigh, *De intensione et remissione formarum*, c.1, fol.4r–v.

14. *Ord.* I, d.17, q.5, (OTh III, 486).

15. Cf. Burleigh, *op. cit.*, c.1, fol.2r–v.

16. *Ord.* I, d.17, q.5, (OTh III, 486–87).

motion proceeds. Since no subject can simultaneously have and be deprived of something, it follows that what are *per se* and essentially the terms of motion are incompossible. When Godfrey and Burleigh object that

(D) Motion is between positive terms,

since otherwise it would not differ from creation or annihilation; Scotus and Ockham would agree, when 'term' does not necessarily mean what is *per se* and essentially the term, but also ranges over what is a term of motion *per accidens*. For when a man becomes more charitable than he was before, the lesser charity is *per accidens* a positive term of motion.[17]

(R2.2) Ockham likewise agrees with (C), but rejects his opponents' application of it. Changing examples, he remarks,

> the lesser [whiteness] is apt to denominate its subject, when the greater whiteness is apt to denominate it. But not this way—by saying that this is *less white*; but by saying that this is *white* by virtue of such whiteness. And the latter is true.[18]

What (C) tells us is that whenever any *F*-ness inheres in a subject *x*, it is true to say that *x* is *F*. As we shall see, Ockham thinks that whether *x* is said to be *more* or *less F* on any given occasion depends further on whether or not anything else besides that *F*-ness inheres in the same subject *x*—in particular, on whether or not any other *F*-ness does. Hence, it does not follow that whenever the lesser charity is present, the subject is said to be less charitable; but only that the subject is charitable.

(R2.3) Ockham's opponents base the analogy between the augmentation of qualities and the augmentation of quantities on the assumption that quantities are things really distinct from substances and qualities, just as some qualities are things really distinct from substances. But Ockham believes himself to have overturned the former while sustaining the latter (see Part One,

17. Ockham, *Ord.* I, d.17, q.5, (OTh III, 495, 492–93); Scotus, *Ord.* I, d.17, p.2, q.1, n.226–27, 230, (Vaticana V, 249–251).

18. *Ord.* I, d.17, q.5, (OTh III, 493).

chapters 6 and 8 above). On his view, condensation and rarefaction do not necessarily involve the generation or corruption of any thing, but can be explained entirely in terms of the locomotion of the parts of the condensed or rarified thing.

Further, Ockham thinks there are positive reasons to reject the Generation-and-Corruption theory. (C2.4) Adherents of the Generation-and-Corruption theory assume with Ockham that when a man becomes more charitable than before,

(E) The form that inheres in the subject at the end of the augmentation is of the same species as the form that inhered in the subject at the beginning of the augmentation.

That is why they deny that such augmentation involves the addition of something to the form of charity that inheres in the man at the beginning of the process; for the addition of anything to a form is supposed to vary the species. But Ockham does not see how the Generation-and-Corruption theory can preserve (E) any better than the theory it opposes. For according to it, the form at the end of the augmentation is just as simple as the form at the beginning of the augmentation, so that the former contains no more parts than the latter; otherwise, augmentation would occur by addition after all. But Ockham maintains,

(F) When some things are so related that nothing intrinsic to one is maximally similar to anything instrinsic to the other, they differ in more than number.

The whole earlier form cannot be maximally similar to the whole later form, because then there would be no difference between the two degrees and one would not be greater than the other. Nor can it be the case that part of one is maximally similar to the whole or to a part of the other, because these forms are simple and have no parts. Consequently, he concludes, the earlier and later forms postulated by this theory cannot be of the same most specific species.

(C2.5) Again, the Generation-and-Corruption theory will not be able to give an adequate natural explanation either of augmentation or of the change from one quality to its contrary. (C2.5.1) For the introduction of one form does not corrupt the other unless the former is incompatible with the latter. But while contrary qualities such as whiteness and blackness, heat and coldness, are formally incompatible with one another, individual qualities of the same kind are not. But by (E), the earlier and the later qualities in augmentation are of the same kind. Therefore, the introduction of one cannot corrupt the other, and it does not appear that any other natural explanation of such corruption is available either.[19]

(C2.5.2) On the other hand, the Generation-and-Corruption theory would be forced to admit the absurd consequence that one contrary is *per se* the cause of the other. For all agree that when heat approaches cold water and the water changes from being very cold to being hot, the heat first reduces the cold to a lesser degree before it corrupts it altogether. But, according to the Generation-and-Corruption theory, when a body changes from being cold in degree $n$ to being cold in a lesser degree $m$, the form of coldness$_n$ is corrupted and a form of coldness$_m$ is generated. But any degree of heat is contrary to any degree of cold, and the absurdity of one contrary's being *per se* the cause of another follows.[20]

(RC2.5.1) Adherents of this opinion would reply that Ockham's first argument about augmentation makes a large assumption: viz., that the only reason why two forms cannot exist in the same first subject simultaneously is that they are formally incompatible with each other the way contrary qualities are. In their view, this is not so. For they contend that

(G) It is impossible for two individuals of the same kind to exist in the same first subject simultaneously, unless they

19. *Ibid.*, (OTh II, 488).

20. Offered by Scotus, *Ord.* I, d.17, p.2, q.1, n.212, (Vaticana V, 243), cited by Ockham as Scotus's at *Ord.* I, d.17, q.5, (OTh III, 490–91) and as his own at (OTh III, 492), and noted by Burleigh in *op. cit.*, c.5, fol.11v.

combine to make something one *per se*.

And while they admit that two waters can combine to make numerically one water *per se*, and two individual whitenesses or two individual heats can combine to make one individual whiteness *per se* or one individual heat *per se*, respectively, they hold that

(H) "It is impossible for them"—viz., two individuals of the same kind—"to make anything numerically one without being distinct in place and subject."[21]

Thus, while the two individual whitenesses in adjacent halves of a board combine to make one individual whiteness, just as the two halves of the board combine to make one individual board, it is impossible that two individual whitenesses exist simultaneously in the very same part of the board and combine to make one individual whiteness *per se*.[22] In defense of (H), they cite the Aristotelian principle that

(I) If two distinct things unite to make something one *per se*, the one must be in potentiality and the other in actuality;

for if the one is in potentiality and the other in actuality, the two that combine to make something one *per se* must be of different kinds. Similarly, they appeal to the rule that

(J) Nothing can be in a genus *per se* if it is composed of parts each of which is in a genus *per se*.

For example, a man is in a genus *per se*, but neither his matter nor his substantial form is in a genus *per se*. Rather each is in a genus only by reduction. Similarly, each of a group of men is in a genus *per se*, but the group is not in any genus *per se*.[23]

21. *Ord.* I, d.17, q.5, (OTh III, 489).
22. *Ibid.*
23. *Ibid.*, q.7, (OTh III, 519–520); *Rep.* III, q.8, (OTh VI, 238–39).

(RRC2.5.1) Ockham's response is that (I) is not true in general, but only where the distinct things that unite to make something one *per se* are of different kinds; he comments,

> the Philosopher means that two actual things of different kinds do not make one thing. Therefore, when those that can be compounded are of different kinds, one thing is made from them only if one is in actuality and the other is in potentiality. But when they are of the same kind, this is not necessary, as is clear with the parts of water and fire. The same is true in the case at hand.[24]

Similarly, (J) is usually advanced when the Philosopher has parts of different kinds in mind, and is not true where the parts in question are of the same kind. Thus, Ockham sees no good reason to endorse (H). As for (G), Ockham says that it is true, if they are speaking about what is naturally impossible, but for reasons arising out of the doctrine of Transubstantiation, Ockham denies that it is logically impossible (see Part One, chapter 6 above).

(RC2.5.2) As for the objection that on the Generation-and-Corruption theory, one contrary will be *per se* the cause of another, Walter Burleigh replies that while it is absurd that a quality should cause a process in which its contrary is *per se* and essentially the ultimate term, it is not impossible that a quality should introduce an individual of the contrary quality as an intermediate effect, enroute to its ultimate end. Thus, it is not the production of coldness$_m$ that is the ultimate end of the process initiated by the approaching heat, but rather the destruction of the coldness altogether and the introduction of some degree of heat. Coldness$_m$ is only an intermediate effect produced by the heat in the process of ultimately introducing heat into the body in question.[25] So far as I know, Ochkam does not envisage such a reply. But I suspect that if confronted with it, he would simple have insisted that no quality can have its contrary either as an intermediate or an ultimate effect.

(C2.6) Further, Ockham charges that the Generation-

24. *Ord.* I, d.17, q.7, (OTh III, 545); cf. *Rep.* III, q.8, (OTh VI, 238–39).
25. *Op. cit.*, c.6, fol.13r.

and-Corruption theory runs counter to his principle that

(K) It is naturally impossible for infinitely many things to be generated and/or corrupted in a finite time.

For as a species of motion, augmentation is continuous. Assume, then, that a body is cold in degree $m$ at $t_1$ and becomes continually colder till it reaches coldness in degree $n$ at $t_{10}$ (where $t_1$–$t_{10}$ is a finite interval of time). Then for any instant $t_j$ arbitrarily close to $t_1$ and before $t_{10}$, that body will be cold in a degree greater than $m$ and less than $n$. And for any time $t_k$ after $t_j$ and before $t_{10}$, the body will be cold in a greater degree that it was at $t_j$, etc. But on the Generation-and-Corruption theory, each increase involves the corruption of the previous form of coldness and the generation of a new one. Since there are infinitely many instants between $t_1$ and $t_{10}$, it follows that infinitely many forms will be generated and corrupted in a finite time—which is contrary to (K).[26]

(RC2.6) Burleigh faces this objection with equanimity. He replies simply, "I grant it. Nor is it absurd, but necessary."[27] And later on he confides, "I am amazed by the fact that many doctors are amazed by infinitely many individuals."[28]

(C2.7) If Burleigh is undaunted by the prospect of infinitely many individuals being generated and corrupted in a finite time, Ockham thinks he should be by the thought of infinitely many individuals existing at once. Yet, Ockham thinks, this follows just as easily from the Generation-and-Corruption theory. For

(L) Every created thing produced by a created agent can be conserved by God while the action of the creature lasts.

Since augmentation is agreed to be a natural process, the Generation-and-Corruption theory will have to admit that a

26. Noted by Ockham, *Ord.* I, d.17, q.5, (OTh III, 491) and by Burleigh, *op. cit.*, c.5, fol.11v.

27. *Ibid.*, c.6, fol.14v.

28. *Ibid.*

natural agent such as heat or cold produces infinitely many forms successively in a finite time. By (L), "God can conserve every form produced by the augmenting form without the action of the creature stopping...Therefore, God could conserve infinitely many things in act" at once, in which case they would all exist at once—something Ockham believes to be logically impossible (See Part One, chapter 5 above).

(RC2.7) To this argument, Burleigh could consistently make one of two responses. He could ally himself with those who think that an actual infinity of simutaneously existing things is logically possible, and thus have no qualms about accepting (L). Or he could reject (L) on the ground that it would combine with other—in his mind undeniable—facts to imply the logical possibility of an actual infinity of simultaneously existing things.

(C2.8) Finally, there is an argument from ethics that Ockham takes over from Scotus: everyone agrees that habits are produced and then reinforced by acts. But the tenth act by which a habit is reinforced and thus increased may be less perfect than the first or second acts, while the resulting habit is more perfect. If each degree of the habit is a really distinct form none of which is part of another, then it follows that the less perfect act produces a more perfect habit than the more perfect act does—which seems absurd.[29] On the other hand, if all the tenth act had to do in order to increase the habit was to add a part to the larger part already there, this would seem a manageable task, even if the tenth act were less perfect than the first and second acts.

Burleigh acknowledges this objection and replies that the less perfect act can result in a more perfect habit than the more perfect act does, because the subject is more disposed to the more perfect habit, say of degree *n*, after having had a slightly less perfect habit, say of degree *n–1*, inhering in it than it was earlier, when it had had only a habit of degree *n–10* inhering in it. For the more perfect habit disposes the subject to receive a still more perfect habit, and this disposition acts as a partial

29. Scotus, *Ord.* I, d.17, p.2, q.1, n.208, (Vaticana V, 239–240); Ockham, *Ord.* I, d.17, q.5, (OTh III, 490).

cause, together with the less perfect tenth act, to produce the more perfect habit.[30]

Indeed, Burleigh turns the argument around. If an intense degree of a quality were made up of parts so that the agent could "divide and conquer" the task of increasing or decreasing the form into that of merely adding or subtracting a part, it would follow that an intense degree could be destroyed all at once by a lesser degree of the contrary quality, or produced by a lesser degree of the same kind of quality. For Burleigh holds that

> (M) Whenever an agent is equally close to two things that are equally resistant to the action, other things being equal, the agent that destroys the one destroys the other.

Therefore, if heat of degree 1 is apt to reduce cold of degree 10 to cold of degree 9, and the cold is divided into parts that can be produced or destroyed separately, then the heat of degree 1 can equally well corrupt each of the other nine one-degree parts and by (M) will do so.[31] By an analogous argument, heat of degree 1 will be equally able to produce any number of one degree heats in a subject to which it is appropriately close. Hence, heat of degree 1 will be able to cause heat of degree 10—which is contrary to our experience of nature.[32]

## 3. THE MIXTURE THEORY

Another way of accounting for augmentation—sometimes endorsed by Albert the Great[33]— is to say that

> when any form is increased, it is not united for the first time to anything really distinct, but rather is more purified and separated from

30. *Op. cit.*, c.6, fol.15r.
31. *Ibid.*, c.1, fol.2vb–3a.
32. *Ibid.*, fol.4vb–5ra.
33. Maier finds this view in Albert's commentary on the *Categories*, but thinks other views are suggested in other works of his (*op. cit.*, 18–20).

> its contrary than it was before. And this is what it is for it to be intensified or increased.[34]

When something is pure white it contains only whiteness a no blackness; pure black, it contains only blackness and whiteness. But when it is either white in a less intense degree black in a less intense degree, it contains a mixture of blackn and whiteness. It becomes whiter as the whiteness is segregat out from the blackness; blacker as the blackness is segregat out from the whiteness. And on the "pure" version of this op ion, the augmentation or reduction of a quality consists nothing more than such segregation and desegregation of it a its contrary.

Like the Generation-and-Corruption theory, this version the mixture theory avoids saying that forms are added to augmentation and so could consistently retain the convicti that addition to a form varies the species. It was also inspired but scarcely fully explicit in several texts from Aristotle. For ( ample, in *Topics* III, 5, 199a27ff, Aristotle asserts that a thing whiter the less mixed it is with black, from which they infer th "therefore, for something to be whiter *is* for it to be less mix with black."[35] Again, they infer from his view in the *Categor* that only those that have contraries admit of more and less, th "according to him, nothing admits of more without being l mixed with its contrary."[36] The most suggestive passage found in *Metaphysics*, Book X, where Aristotle says and Av roes concurs that "the mean is composed to extremes," so th an intermediate degree of whiteness or blackness must be co posed of a mixture of the extremes of whiteness and blackness

Ockham obviously finds the Mixture theory altogether i plausible, and his evaluations of it are sometimes less th fair-minded. (3.1) For example, he asks us to consider son thing that is white in lesser degree. If its being white lesser degree *consists in* whiteness being mixed with blackn

34. *Ord.* I, d.17, q.6, (OTh III, 496).
35. *Ord.* I, d.17, q.6, (OTh III, 496), (italics mine).
36. *Ord.* I, d.17, q.6, (OTh III, 496).

there, then let God separate the blackness from the whiteness. Either the whiteness thus separated is whiteness in the highest degree, or whiteness in a lesser degree. If the former, then each whiteness in its nature is whiteness in the highest degree, and so whiteness does not admit of more and less after all. If the whiteness there is of a lesser degree, then it follows that whiteness exists in a lesser degree apart from being mixed with its contrary, and so a quality's being in a lesser degree cannot consist in being mixed with its contrary.[37]

(R3.1) An adherent of the Mixture theory would reply that this objection simply fails to take seriously its contention that no quality is of one degree or another in itself or by its very nature; rather what degree a quality is depends on how much it is mixed with its contrary. Thus, the Mixture theorist would allow that if the whiteness in the subject were entirely segregated from the blackness by God, it would then be whiteness in the highest degree, because it would be altogether unmixed with its contrary. But so long as it exists in the subject mixed with blackness, it is whiteness in a less intense degree because it is mixed with its contrary.

(3.2) Again, Ockham notes that if for a quality to be increased is only to be less mixed with its contrary, then there is no real augmentation, since in reality there is no more form or substance there than there was before. What is there merely seems greater, because it is no longer mixed with its contrary.[38]

(R3.2) Adherents of the Mixture theory may simply reply that this was their intention; for they believe that nothing real can be added to a form without varying the species. That is why they wish to understand augmentation and reduction simply in terms of the mixing and unmixing of what is already there.

(3.3) More seriously, Ockham observes that it follows from the Mixture theory that no form is increased without its contrary being simultaneously increased. For according to it, for heat to be increased *is* for it to be less mixed with cold. But if the heat in a subject is segregated out from the cold, it follows

37. *Quaest. Physicorum*, q.151, (OPh VI).
38. *Ord.* I, d.17, q.6, (OTh III, 498).

that the cold will be segregated out from the heat by the same process. Therefore, if being increased involves nothing more than being less mixed with its contrary, then the cold is increased whenever the heat is increased—which is contrary to experience.[39]

It is not obvious how the above-stated version of the Mixture theory could escape this objection. Alphonsus Toletanus[40] notes, however, that besides this "pure" version of the Mixture theory, there are several hybrid views: one could say that the augmentation of a quality was a matter of that quality's becoming less mixed with its contrary, but add that in this process (i) the absolute amount of that quality remains the same, while the absolute amount of its contrary is gradually decreased; or (ii) the absolute amount of that quality is gradually increased, while the absolute amount of its contrary remains the same; or (iii) the absolute amount of that quality is gradually increased. Any one of these hybrid positions can deny that the cold is increased whenever the heat is increased. For it may be that whereas, absolutely speaking, there were equal amounts of cold and heat in the mixture before, there is now twice as much heat as cold. Thus, even if the two are more segregated than before, they will say that it is the heat that increases and not the cold.

Ockham responds that

> This reply grants my contention: that for a form to be increased is not the same as for it to be less mixed with its contrary. But whether it is more or less mixed, the form which is greater is increased and the form that is less is diminished. Therefore, mixture with its contrary is wholly accidental to the augmentation of a form.[41]

Once another measure of the intensity of heat and cold is admitted, as it is in hybrid positions, the intuition of the Mixture theory has already been abandoned.

(3.4) The most telling consideration Ockham advances against the Mixture theory is that it appears to be based on the

39. *Ibid.*, (OTh III, 497).
40. Maier, *op. cit.*, 81, note 16.
41. *Ord.* I, d.17, q.6, (OTh III, 497–98).

false assumption that only forms that have contraries admit of more and less. Ockham insists that Aristotle does not really mean to say that in the *Categories*,[42] and in any event there are counterexamples. For according to the medieval theory of light, light does not have a contrary, and yet it can be more or less intense. Again, everyone agrees that moral virtues are habits that are caused by virtuous acts. The first virtuous act causes a habit of low intensity; the second reinforces the habit; etc. But according to the Mixture theory, for a virtuous habit to be of low intensity *is* for it to be mixed with its contrary—a vicious habit. And Ockham protests that virtuous acts cannot cause vicious habits, any more than one quality can be *per se* and essentially the cause of its contrary; rather only vicious acts cause vicious habits. Given these facts, it follows on the Mixture theory that "someone could not be morally good without being vicious first," because he could not acquire virtuous habits of low or medium degree without also acquiring the vicious habits with which they are mixed; and he could not do the latter without performing vicious acts as well. A similar argument shows that no one could have habitual knowledge of low or medium intensity without first having been mistaken—which seems likewise absurd.[43]

## 4. THE ADDITION-AND-SUBTRACTION THEORIES

Ockham has insisted on (A')—that there is no passage from contradictory to contradictory apart from locomotion or the generation or corruption of something. But he has argued that augmentation is not to be accounted for in terms of locomotion, the replacement of the earlier form with an entirely new form, or the relative unmixing of the quality with its contrary. The remaining viable alternative seemed to be to explain the augmentation or reduction of a form in terms of the addition or subtraction of parts, respectively. This "addition-and-subtraction"

42. *Ibid.*, (OTh III, 518).
43. *Ibid.*, (OTh III, 492).

solution was, however, developed in a number of ways, of which we shall examine four.

The first—which I shall label Addition-and-Subtraction Theory$_1$—advances two principal theses:

(T1) The augmentation or reduction of a form consists in the addition of parts to or the subtraction of parts from the earlier form,

and

(T2) Once these parts are added and so long as they remain parts of the whole, there is no real distinction, but only a distinction of reason between the parts and the whole and among the parts themselves.[44]

Thus, adherents to this position hold that the increased form

> should not be called composite because of such parts. For they do not remain distinct from one another according to the degrees in which they would be apt to stand in different things, but there is only a distinction of reason between them, and the less intense remains only virtually in the more intense...[45]

To Ockham, "this opinion seems contradictory in that it assumes that each such form is increased by acquiring parts and yet that the parts are not really distinct."[46] And agreeing with (T1), he mobilizes a number of arguments against (T2). (C4.1) First of all, Ockham thinks it follows from the very notion of a part, properly speaking, that "no real whole is the same as its part...and a fortiori the one part will not be really the same as the other part."[47] Further, Ockham offers to prove this conclusion by a straightforward application of the Indiscernibility of Identicals: "every real whole is more perfect than its part. But

44. *Ibid.*, (OTh III, 506–508).
45. *Ibid.*, (OTh III, 508).
46. *Ibid.*, (OTh III, 509).
47. *Ibid.*, (OTh III, 510).

the same thing is not more perfect than itself, etc."[48] Ockham's first premiss—that every real whole is more perfect than its part—was generally accepted by medievals, (see, e.g., Part Five, chapter 21 below) but would strike us as dubious. Nevertheless, this argument could be replaced by the even more obvious one that the whole is made up of all of its parts—$p_1$, $p_2$, ...$p_n$—whereas it is not the case that each part is made up of all of those parts. By the Indiscernibility of Identicals, it follows that no part is identical with the whole and a fortiori with the other parts.

To this, adherents of the Addition-and-Subtraction Theory$_t$ might protest that in formulating (T1), they do not intend to be using 'parts' in the strict sense described by Ockham. Rather they use it in such a way that parts may be only virtually contained in the whole and may be only distinct in reason from the whole and from other parts.

We have encountered this move—of saying that $x$ and $y$ are really the same, but there is a distinction of reason between them by virtue of which it can be truly said without contradiction that $x$ is $F$ and it is not the case the $y$ if $F$—before (in Part one, chapter 2 above) and we shall find it invoked again in theological contexts (see Part Five, chapter 21 below). But Ockham objects to this move in general, and in any case denies its applicability here. (C4.2) As for the general theoretical point, Ockham notes that "it was proved earlier that it is impossible for anything real to be distinct in reason from anything real."[49] On Ockham's scheme, which—as I have argued—his opponents do not share, only beings of reason can be related by sameness and distinction of reason. Since in the case at hand, "each of these parts is something real" in that each really exists, "they are in no way distinct in reason."[50]

(C4.3) Even those who allow that in some cases $x$ and $y$ may be really the same but distinct in reason, deny that this can ever

48. *Ibid.*
49. *Ibid.*, (OTh III, 511); cf. Part One, chapter 2.
50. *Ibid.*

be so where it is logically possible that $x$ really exist without $y$'s really existing, or vice versa. For wherever $x$ and $y$ are really the same, it is logically impossible for either to exist in reality without the other. Thus, Ockham argues,

> any that are merely distinct in reason and not really distinct cannot be separated in reality in such a way that one really exist and the other does not. But one of these parts can be really separated from the other, as is clear when the whole is decreased. Also, one of these parts existed when the other did not exist. Therefore, these parts are not merely distinct in reason.[51]

Ockham envisions his opponents as objecting that so long as these parts are parts of the whole, they are not *actual* parts but only potential parts and so are not *really* distinct but only distinct *in reason*. But he regards this consideration as irrelevant, since "being potential the way the part is potential is not an obstacle to the real distinction of one from the other similarly potential [part]." For example the two feet of a man are obviously really distinct, even though they are not actually separated from the body; so are the two parts of a line, even though they are not actually divided.[52]

## 5. ADDITION-AND-SUBTRACTION THEORY$_2$

The second version of the Addition-and-Subtraction theory can be summarized in the following five theses:

(T1) The augmentation or reduction of a form consists in the addition of parts to or the subtraction of parts from the earlier form,

(T3) The parts by the addition of which a form is augmented and by the subtraction of which it is reduced are really distinct from that to which they are added and combine

51. *Ibid.*, (OTh III, 510).
52. *Ibid.*, (OTh III, 509–510).

with it to make one form *per se*,

(T4) The parts by the addition of which a form is augmented and by the subtraction of which it is reduced do not belong to the species to which the augmented or reduced form belongs, *per se* but only by reduction,

(T5) Once the part is added to the preceding form, it is altogether inseparable from it in reality so that not even God could make the added part exist,

and

(T6) Once the part is added to the preceding form, it is altogether inseparable from it in thought, so that no one can have an intuitive cognition whose object is only that added part.[53]

Thus, when Peter's charity is augmented after some especially meritorious act, the charity that existed before remains in Peter, and a new part of form really distinct from it is added to it (by T1 and T3). But that newly added part does not belong to the species charity *per se* but only by reduction—i.e., by virtue of being part of something that does belong to that species *per se*. The added part "could almost be called 'concharity'"[54] (by T4). Further, once that part is added it is not even logically possible that it should exist all by itself, separated from the charity that existed in Peter before (T5). Nor is it possible that anyone should have an intuitive cognition that is of that added part without simultaneously being of the form to which it was added (by T6).

Of these assertions, Ockham accepts (T1) and (T3); it is the remaining theses (T4)–(T6) that need to be defended. Ockham cites a number of arguments in favor of (T4): (5.1) First, adherents of Addition-and-Subtraction Theory$_2$ observe that no

53. *Ibid.*, q.7, (OTh III, 521).
54. *Ibid.*

new form of the same species is added when something changes shape or volume. For example, when a line becomes more curved than it was before, it is not the case that another really distinct curvature is added to that already in the line with the result that the line takes on a greater curvature than it had before. Likewise, when air becomes rarer or denser it is not the case that a new rarity or a new density is added to the rarity or density that were there before with the result that the air is rarer or denser.[55] But the augmentation or reduction as a quality is analogous to such changes in shape or volume. Consequently, the former do not involve the addition or subtraction of a part of the same species, any more than the latter do.[56]

(5.2) Second, they argue that (T3) really entails (T4). For like the adherents of the Generation-and-Corruption theory, they endorse

(H) It is impossible for two individuals of the same kind to combine to make anything numerically one *per se* without being distinct in place and subject.

Since they think that augmentation occurs when some new reality is added in the same first and adequate subject and combines with the form already existing in that subject to make something one *per se*, it follows that the added reality must not, of itself, belong to the same species as the form to which it is added. But given their assent to

(E) The form that inheres in the subject at the end of the augmentation is of the same species as the form that inhered in the subject at the beginning of the augmentation,

the added reality can be said to exist in that species by reduction.[57]

55. *Ibid.* (OTh III, 522).
56. *Ibid.*
57. *Ibid.*, (OTh III, 522–23).

(5.3) Further, given (H), it follows that unless (T4) were true, infinitely many realities, none of which is part of another and which do not combine to make anything one *per se* would be produced by any augmentation. For, as Ockham agrees,

> in the motion by which something is increased, infinitely many parts in potentiality will be acquired by each little bit. Therefore, if these parts do not come together to make some formal unity [as they cannot by (H) if they are of the same kind] it remains that there are infinitely many forms there each of which is undivided in itself and divided from the others. Consequently, infinitely many will exist numerically which is impossible.[58]

And this very consequence was one that Ockham himself advanced against the Generation-and-Corruption theory.

Ockham is as unimpressed with this defense of (T4) as he is convinced of the falsity of (T5) and (T6). (R5.1) His principal reaction to the first argument is to reject the analogy between qualitative augmentation, on the one hand, and changes of shape and condensation and rarefaction on the other. In his opinion, the latter do not involve the addition of any new reality of the same species, beause they do not involve the addition of any new reality at all. For Ockham thinks that neither shapes nor quantities are any things (*res*) really distinct from substances and qualities (see Part One, chapter 6 and 8 above); and he proposes to explain such changes solely in terms of locomotion.[59] On the other hand, he argues that if one did believe that quantities were things really distinct from substances and qualities, one would have to hold—for reasons discussed earlier in connection with condensation and rarefaction (see Part One, chapter 6)—that the old quality was corrupted and an entirely new one was produced in the subject during such change.[60]

(R5.2–5.3) As for the second and third arguments, Ockham rejects (H), the premiss on which they are based, along with their purported defense of it already discussed in connection

58. *Ibid.*, (OTh III, 523).
59. *Ibid.*, (OTh III, 537).
60. *Ibid.*, (OTh III, 537–38).

with the Generation-and-Corruption theory. Consequently, he maintains instead that although the added reality is of the same kind as the form to which it is added, they do combine to make something one *per se*, just as much as matter and substantial form do. But unlike matter and substantial form, it is not the case that the one must be in potentiality to the other, since they are parts of the same kind.[61] And while it is true that infinitely many parts in potentiality are produced during augmentation, this presents no difficulty, because the parts do unite to make something one *per se*.[62]

Against (T5), Ockham argues that "by divine power the added charity" or part of form "can come to exist *per se*" without the form to which it is added.[63] His arguments rest on his rejection of (T4) and consequent affirmation of

(T7) The parts by the addition of which a form is augmented and by the substraction of which it is reduced do belong to the same species *per se* as the form to which they are added or from which they are subtracted,

together with the twin assumption that

(N) Whenever some things are of the same kind, if one of them can come to exist *per se* by divine power, so can the other,

and

(O) Whenever some things are of the same kind and neither is part of the other, and one of them can exist without the other, by the same token it can be destroyed without the other's being destroyed.

He then reasons that since, by (T7), the added reality and the

61. *Ibid.*, (OTh III, 539–540).
62. *Ibid.*, (OTh III, 540).
63. *Ibid.*, (OTh III, 533).

form to which it is added are of the same kind, and since the earlier form exists *per se* without the added reality before the latter is added, it follows, by (N), that the new reality can exist *per se* without the form to which it is added, at least by divine power. Likewise, it follows, by (O), that the preceding form could be destroyed without the added reality's being destroyed, and hence that the latter could exist without the former, at least by divine power.[64] Accordingly, Ockham affirms

(T8) Even after a part has been added to the preexisting form, it is still logically possible that it really exist without that form, at least by divine power.

Ockham thinks a denial of (T6) can be inferred from (T8), since "each thing is intelligible insofar as it has being." But the added reality is really distinct from the preexisting form and can exist in reality without it. "Therefore, each has a distinct intelligibility, according to their way of speaking" and "no contradiction is involved in a created intellect's having an intuitive understanding of the second and not of the first."[65]

He defends the same conclusion on the basis of his assumption that

(P) When some things are of the same kind, if one of them can be intuitively understood *per se*, so can the other.

But everyone agrees that it is possible for a creature to have an intuitive cognition of the preexisting form by itself. Consequently, by (T7) and (P), it is possible to have an intuitive cognition of the added reality taken by itself—which is contrary to (T6). If it is objected that the preexisting form could be intuitively understood all by itself *before* the new reality was added; but it cannot be thus understood *after* the new reality is added, Ockham replies that

on the contrary, so long as the thing remains in existence, God can con-

64. *Ibid.*, (OTh III, 526–27).
65. *Ibid.*, (OTh III, 528).

> serve any intellectual intuitive cognition no matter what else is produced for the first time. Therefore, suppose that an angel first understands the preexistent charity before the augmentation. So long as that charity remains in existence, God can conserve it and the intuitive cognition, no matter how many new things are added to it.[66]

Similarly, the object is only a partial cause of an intuitive cognition of itself; God is another partial cause. Since, by (T3), the added reality and the preexisting form are really distinct, God could will to cooperate with the newly added reality but not with the preexisting form to produce an intuitive cognition of the former all by itself without the latter. If He did, the perceiver would have an intuitive cognition of the newly added reality and no intuitive cognition of the preexisting form —which is again contrary to (T6). Thus, Ockham affirms

(T9) Even after a part is added to the preexisting form, it is logically possible for a creature to have an intuitive cognition of it alone without the preceding form to which it is added.[67]

On the other hand, it is not naturally possible for a created power to have an intuitive cognition of one without the other. For Ockham thinks

(Q) When some natural powers are equally disposed to act and equally close to a patient and no obstacle is present, all of these natural causes act.

But the preexisting form and the added reality will be equally disposed to act on and equally close to the perceiver. If there is not a natural obstacle present and God does not withdraw His cooperation from the general order of nature, it follows that both will act on a perceiver simultaneously, so that he will simultaneously have intuitive cognitions of both.[68]

66. *Ibid.*
67. *Ibid.*, (OTh III, 528, 534).
68. *Ibid.*, (OTh III, 534).

## 6. PRELIMINARY SUMMARY OF OCKHAM'S POSITION

Ockham's own view regarding the augmentation of forms, as developed so far, can thus be summarized in the following collection of theses:

(T1) The augmentation or reduction of a form consists in the addition of parts to or the subtraction of parts from the earlier form;

(T3) The parts by the addition of which a form is augmented and by the subtraction of which it is reduced are really distinct from that to which they are added and combine with it to make one form *per se*;

(T7) The parts by the addition of which a form is augmented and by the subtraction of which it is reduced do belong to the same species *per se* as the form to which they are added or from which they are subtracted;

(T8) Even after a part had been added to the preexisting form, it is still logically possible that it really exist without that form, at least by divine power;

(T9) Even after a part is added to the preceding form, it is logically possible for a creature to have an intuitive cognition of it alone without the preceding form to which it is added;

and

(T10) After a part is added to the preceding form, it is not naturally possible for a creature to have an intuitive cognition of it alone without the preceding form to which it is added.

In arriving at them, Ockham has dismissed the Participation

theory and the "pure" form of the Mixture theory rather easily: the former on the ground that when its metaphors are cashed, it will reduce to one of the other theories; the latter, because it implies that only forms with contraries can be increased and decreased and that no form can be increased without its contrary being simultaneously increased—both of which run contrary to medieval convictions. More formidable opposition is the Generation-and-Corruption theory sponsored by Godfrey of Fontaines and Walter Burleigh. With them he does battle over three main points. The first is what constitutes the terms of motion. Godfrey and Burleigh affirm

(B) The terms of motion are incompossible

and

(D) Motion is between positive terms,

and conclude that the forms at the beginning and end of the process of augmentation must be incompossible. Hence, it cannot be that the earlier form persists through the augmentation and is increased by addition. Ockham responds that if the forms at the beginning and end of the augmentation really were incompossible, then, as equally simple, they would not be of the same species, contrary to

(E) The form that inheres in the subject at the end of the augmentation is of the same species as the form that inhered in the subject at the beginning of the augmentation.

Ockham follows Scotus in insisting that while (B) is true about the *per se* terms of the motion, the latter are to be identified with the privation of the form and the form, and hence are not both positive. (D) is true, because the initial form is a term of the augmentation *per accidens* and is something positive.

A second disagreement arises over how objectionable infinities of things are. Ockham affirms

(K) It is naturally impossible for infinitely many things to be generated and/or corrupted in a finite time,

and notes that since augmentation is a continous natural process, the Generation-and-Corruption theory implies a denial of (K). Burleigh calmly rejects (K) and accepts this consequence. Again, Ockham appeals to

(L) Every created thing produced by a created agent can be conserved by God while the action of the creature lasts,

to infer that the Generation-and-Corruption theory forces one to accept an actual infinity of simultaneously existing things. It is not clear whether Burleigh would follow some of his contemporaries in accepting (L) and the actual infinity, or whether he would avoid the actual infinity by rejecting (L).

Adherents to the Generation-and-Corruption theory are joined by proponents of the Addition-and-Subtraction Theory$_2$ in arguing that the conjuction of (T1) and (T7) is impossible, on the ground that

(H) It is impossible for two individuals of the same kind to make anything numerically one without being distinct in place and subject,

a claim which they arrive at by generalizing various Aristotelian principles. But Ockham does not see why two parts of whiteness in the same adequate subject cannot unite to make something one *per se*, just as two parts of whiteness in distinct but adjacent places and subjects do, and accordingly insists on (T7).

Given (T1), he easily defends (T3) on the ground that the real existence of the preexisting form is logically separable from that of the newly added part, so that they cannot be really the same. (T8) follows easily, given (T3), and it is not difficult to derive (T9) from (T3) and various aspects of Ockham's epistemology. Because of the consensus behind

(Q) When some natural powers are equally disposed to act

and equally close to a patient and no obstacle is present, all of these natural causes act,

(T10) would have been uncontroversial among parties to this dispute.

## 7. ADDITION-AND-SUBTRACTION THEORY$_3$

Nevertheless, among those who agree to (T1), (T3), (T7), (T8), (T9), and (T10), further disagreement arises over the nature of augmentation and reduction and likewise the nature of the change from one quality to its contrary. In particular, disagreement arises over

(T11) Anything that has a quality in a reduced or less than maximum degree contains both parts of that quality and parts of its contrary.

The idea here is that what is white or black in the maximum degree would contain only parts of whiteness or only parts of blackness, respectively. But when something is white in an intense but less than maximum degree, it contains both parts of whiteness and parts of blackness, but more parts of whiteness than parts of blackness; when it is black in an intense but less than maximum degree, the other way around. And when something changes from being pure white to being pure black, what happens is that parts of whiteness are continually less and parts of blackness continually added until finally all the parts of whiteness are replaced by parts of blackness. This position was the common one and was endorsed by Peter of Spain, Richard Kilvington, and Jacobus de Forlivio to mention a few.

Jacobus develops this position with remarkable clarity in his treatise *De intensione et remissione formarum*, on the basis of the following assumptions:

(T12) Every intense or reduced degree of a quality is internally composed of degree parts—the more intense from more parts; the less intense from fewer;

(T13) Where qualities have a contrary, the change from one to another occurs by a *single* continuous alteration;

(T14) Whenever a quality is lost by such continuous alteration, there is a first instant at which no degree of that quality exists and therefore no last instant at which it exists;

(T15) In no motion of alteration is there a first degree introduced by that motion;

(T16) In no motion of alteration is there a neutral instant at which neither quality is had.

(T12) follows from (T1); if it is understood to mean parts of the same species, from (T1) and (T3). Because of the continuity of time and motion, there cannot be both a first instant at which no degree of a given quality *F*-ness exists in a subject $x$ and a last instant at which some degree does. For let $a$ be the latter and $b$ the former. Since time is continuous, no two instants are adjacent: i.e., between any two instants there is another instant. Therefore, there is an instant $c$ between $a$ and $b$. If $a$ is the last instant at which $x$ has the quality *F*-ness, then $x$ will lack *F*-ness at $c$—in which case $b$ will not be the first instant at which $x$ lacks *F*-ness. Conversely, if $b$ is the first instant at which $x$ lacks *F*-ness, then $x$ does not lack *F*-ness at $c$ and $a$ is not the last instant at which $x$ has *F*-ness. Consequently, there cannot be both a first instant at which $x$ lacks *F*-ness and a last instant at which it has *F*-ness.[69] And both Ockham and his opponents agree that there is not a last instant at which a subject has a quality of a given kind.[70] The latter could defend this choice on the basis of their beliefs that

(R) There is no least degree of a quality that admits of more and less,

and

69. Defended by Ockham, *Quaest. Physicorum*, q.98, thesis 1, (OPh VI).
70. Cf. *ibid.*, q.101, (OPh VI).

(S) To acquire the higher degree of a quality, the subject must first pass through all of the lower degrees; and to be reduced to a lower degree, the subject must pass through all of the intervening degrees.

Ockham would grant them (R), and they would defend (S) by contending that there is no more reason why a subject should have to pass through certain intermediate degrees and not others in such augmentation or reduction; hence it will pass through all or none; not none; therefore all. Given (R), for every degree of a quality there is a lower degree. And given (S), a subject cannot be entirely deprived of a quality without passing though all of the reduced degrees. Since there is no least degree, there cannot be a last instant at which the subject has a given quality. Consequently, there must be a first instant at which the subject does not have the quality. (R) and (S) also entail (T15), while (T16) was the common, and for the most part implicit, assumption of medieval authors.

Given (T12)–(T16), it will follow that degrees of both contraries exist simultaneously in the same first and adequate subject. For suppose a subject is hot in a certain degree and becomes cold. Since, by (T13), this change occurs by a *single* continuous motion, there will either be a last instant at which heat inheres in it, or a first instant at which cold inheres in it, or a neutral instant at which neither inheres in it, or both degrees inhere in it simultaneously. Not the first, by (T14); not the second, by (T15); and not the third, by (T16). Therefore, it must be that during this alteration, there is a period during which both parts of heat and parts of cold inhere in the same adequate subject simultaneously. Indeed, this will be the case whenever a subject has the quality in less than maximum degree.

The obvious objection to (T11) is raised by both Ockham and Burleigh; viz., that it is impossible for contraries to exist simultaneously in the same first and adequate subject. They insist that

(T) Contrariety pertains primarily to species of qualities,

and infer that every degree of a quality is just as incompatible with any degree of its contrary as any other degree is.[71] Ockham contends that any degree of whiteness is really whiteness and any degree of blackness is really blackness. Therefore, what has reduced degrees of whiteness and blackness inhering in it simultaneously is really white and really black simultaneously—which is impossible, since whiteness and blackness are contraries *per se* and contraries cannot inhere in the same first and adequate subject simultaneously.[72]

Jacobus recognizes this as a consequence of his opinion and accordingly rejects (T). He explains that contrariety can be understood to obtain between terms or between things. Terms are contrary when they cannot be simultaneously, but only successively predicated, truly and affirmatively of the same subject. For things to be contrary, (i) they must be of the same genus; (ii) they must be removed from one another by degrees and be capable of being acquired by alteration; and (iii) one of the contraries must be *per se* and immediately capable of corrupting the other. Jacobus then claims that it is the highest degree of a quality that is *per se* contrary to the highest degree of another—e.g., the highest degree of heat to the highest degree of cold, the highest degree of whiteness to the highest degree of blackness—because each is incompossible with the other through itself; while lesser degrees are contraries only *per accidens*, in that they are sometimes part of higher degrees that are incompossible *per se*. Thus, the highest degree of heat is *per se* the contrary of the highest degree of cold, and the one expels the other from a given subject; but less intense degrees of heat and coldness are not contraries *per se* but only *per accidens*. And he infers that

(U) It is impossible for those that are contraries *per se* to exist simultaneously in the same first and adequate subject,

71. Ockham, *Quaest. Physicorum*, q.84, 86, and 151, (OPh VI); cf. Burleigh, *De intensione et remissione formarum*, c.2, fol.5rb.

72. *Summulae Physicorum* III, c.22, 75–76, (OPh VI).

but

(V) It is possible that qualities of the same species as contraries exist in the same first and adequate subject.

And he maintains as a corollary to (U) that

(W) Where contraries are of the same species as contraries, the intensification of the one requires the reduction of the other.

Thus, he derives that account of qualitative change with which we began the section.

Ockham is as convinced of (T) as he is of anything, however. And he agrees with (T4)[73] and (T16).[74] But he rejects (T13), insisting that "when there is motion from one contrary quality to the other, there are different motions there; viz., one that expels the one quality, and afterwards one that introduces the contrary."[75] Our temptation to identify them as one motion is understandable, "because they are necessarily concomitant, so that the one cannot occur without the other following it."[76] Further, he rejects (T15) maintaining that there is a first instant at which the latter quality is suddenly introduced[77] and that immediately thereafter it is continuously increased.[78]

Thus, according to Ockham, what is white in any degree cannot simultaneously contain any parts of blackness at all. When something white in any degree becomes black, there is a continuous motion by which the parts of whiteness are successively

73. *Quaest. Physicorum*, q.103, theses 1 & 2, (OPh VI); q.146, thesis 2, (OPh VI); q.148, (OPh VI); q.149, thesis 2, (OPh VI).

74. This is implicit, for example, in an argument *Quaest. Physicorum*, q.82, (OPh VI).

75. *Summulae Physicorum* III, c.30, 83, (OPh VI); *Quaest. Physicorum*, q.85, (OPh VI).

76. *Summulae Physicorum* III, c.30, 83, (OPh VI).

77. *Quaest. Physicorum*, q.82, theses 2 & 4, (OPh VI); q.85, (OPh VI); q.100, thesis 6, (OPh VI); q.146, thesis 2, (OPh VI); q.149, thesis 2, (OPh VI).

78. *Ibid.*, q.149, thesis 4, (OPh VI).

lost. There is no last degree of such qualitative forms, and there is no last instant at which the thing contains a part of whiteness, but there is a first instant at which some degree of blackness is instantaneously introduced. At any instant arbitrarily close to that instant, the thing still contained some degree of whiteness; but at the instant at which the blackness is introduced, it no longer contains any whiteness. Immediately after the sudden introduction of some degree of blackness, the blackness is continously increased up to some limit beyond which the agent lacks the power to blacken the object.

## 8. OBJECTIONS TO OCKHAM'S ACCOUNT

Adherents of the Addition-and-Subtraction Theory$_3$ advance a number of objections against Ockham's analysis of qualitative change. (8.1) First, in defense of (T15), they insist that

(X) The form to which there can be motion cannot be produced instantaneously.[79]

Since there is no least degree of any quality, there can be motion to any degree of a quality from a lesser degree of that quality. Consequently, no degree of any quality can be produced instantaneously.

(8.2) Again, they object that

(Y) If one part of whiteness were produced instantaneously, by the same token, so could any other part of whiteness by produced instantaneously.

Consequently, if we admit with Ockham that the first degree is introduced instantaneously, it will follow that "no whiteness could be acquired by alteration."[80]

(8.3) Further, if a thing becomes white by instantaneously

79. *Ibid.*, q.85, (OPh VI).
80. *Ibid.*

receiving some degree of whiteness, it will become whiter in successive instants only by receiving additional parts of equal perfection. For we may suppose that the whitening agent has the same power at later instants as it did at the first instant, and that there is no obstacle to its action. Hence, the whitening agent will produce the same effect later as it did earlier. Since there are infinitely many instants in any interval, it follows that the resultant whole whiteness will be infinite in degree—which is absurd.[81]

(8.4) Again, Ockham's account implies that there is a least degree of qualitative forms. For according to Ockham, when something changes from some degree of one quality to its contrary, there is a first instant at which some degree of the quality is suddenly introduced. Either the degree introduced then will be the least degree of that quality or not. If it is, then there is a least degree of a form. But if it were not the least degree, no degree will be introduced, since there is no more reason why one degree should be introduced than another. Consequently, either all of them would be introduced instantaneously—which is impossible—or none.[82] Consequently, if any degree is introduced instantaneously, the last degree is.

(R8.1–8.2) Ockham replies to the first two arguments by rejecting the premisses on which they rest. Indeed, he contends that his opponents cannot consistently accept (X) themselves. For they agree with him that substantial forms are introduced instantaneously. And at least some substantial forms—viz., those of the four elements—have certain qualities naturally associated with them: earth is cold and dry; water, cold and moist; air, hot and most; fire, hot and dry. And these qualities accompany their substantial forms in existence, so that "when the substantial form is suddenly introduced into the matter, its quality is suddenly introduced with it, instantaneously."[83] Thus, Ockham writes,

81. *Summulae Physicorum* III, c.22, 75, (OPh VI); *Quaest. Physicorum*, q.151, (OPh VI); cf. Burleigh, *op. cit.*, c.1, fol.3rb–va.

82. *Quaest. Physicorum*, q.150, (OPh VI).

83. *Quaest. Physicorum*, q.82, (OPh VI).

> ...I deny the claim that no form to which there can be motion can be produced instantaneously. For when fire is produced from earth, the heat in the fire is produced instantaneously and...after the first instant the heat is continuously increased. Likewise, when earth is produced from fire, the coldness of the earth is instantaneously produced. For the earth is cold at the same instant at which it is produced. And the coldness was not there before [and] an accident does not precede its subject in time. Consequently, the coldness is produced instantaneously. Nevertheless, there can be motion towards that coldness, because the coldness can be continuously increased afterwards.[84]

And, Ockham thinks, if the particular heat and coldness associated with fire and earth can be instantaneously acquired, so can some degree of any other quality. Similarly, he denies (Y) on the ground that

> the argument regarding the first part of whiteness and that regarding subsequent parts of whiteness is not the same. For whiteness and blackness and any mutually contrary forms cannot exist simultaneously. Therefore, at the same instant at which the form is expelled, the other is introduced. That is why the latter introduced form is produced instantaneously. But when the other form is increased, a part precedes the subsequent part and remains together with it. Therefore, after this first part, there is no other form immediately following it. Consequently, no subsequent form is produced instantaneously.[85]

Ockham asks his opponents to consider the following logically possible case: suppose that earth is instantaneously produced in a high place; its heaviness will be instantaneously produced with it. Assuming there is no natural obstacle it will immediately afterwards move downwards, and its heaviness will undergo a continuous increase. Since this could happen, (X) and (Y) are both false.[86]

(R8.3) Similarly, in reply to the third argument, Ockham holds that "although the agent has the same power, nevertheless the agent cannot produce a certain whole degree all at

84. *Ibid*, q.85, (OPh VI).
85. *Ibid.*
86. *Ibid.*

once after the first instant, but only one after another."[87] He has already explained the necessity of the agent's producing some degree of the form instantaneously in the first instant. Perhaps he will say that the preexisting degree serves as a natural obstacle to its producing any further degrees instantaneously. Any parts produced after the first instant are not produced instantaneously but only continuously over an interval of time.[88]

(R8.4) As for the contention that his account commits him to supposing that there is a least degree of quality, Ockham denies the claim that if there were no least degree, there would be no more reason why one degree should be introduced in the first instant than any other. He suggests that just how high a degree is introduced in the first instant can depend on the power of the agent: a lower degree when the agent is weak; a higher degree, when it is strong.[89] Consequently, even though some degree or other of a quality is introduced all at once at the first instant, there is no least degree of such qualities.

## 9. IS THERE A MAXIMUM DEGREE?

While it is essential to the Addition-and-Subtraction Theory$_3$ to maintain that there is no minimum degree of qualities that admit of more and less, the notion that there is a maximum degree does not seem required by any of the theses discussed so far. Nevertheless, most of its adherents asserted that

(T17) There is a maximum degree of qualities that admit of more and less.

What reasoning lay behind this assertion, and why did Ockham reject it?

In Ockham's view, the most important of their arguments for (T17) went like this: If there is a maximum degree of such

87. *Summulae Physicorum* III, c.11, 75, (OPh VI).
88. Cf. *Rep.* III, q.8, (OTh VI, 273).
89. *Quaest. Physicorum*, q.150, (OPh VI).

qualities, then there will be an infinite process in such degrees, so that for every degree, there is a greater degree. But if there is an infinite process in such degrees, some quality will be infinitely more intense than another of the same species—which is impossible. Therefore, there must be a maximum degree.[90] Also cited is the theological consideration that if there were no maximum degree of charity, then there could be a charity greater than Christ's charity—which seems awkward.[91]

Several arguments are offered in favor of the premiss that if there were an infinite process in degrees of such qualities, then an infinite degree of such qualitites would be possible. (9.1) For example, according to Aristotle in Book III of the *Physics*, a thing can be actual to the extent that it is in potentiality. Therefore, if a form has the potentiality to be increased to infinity, it would be possible for it to be actually infinite.[92] (9.2) Again, the goal of an infinite process would be an infinite degree. But nature never starts a process towards a goal that cannot be reached. Therefore, if such an infinite process were naturally possible, an intensively infinite quality would be naturally possible as well.[93] (9.3) Again, whatever God can make successively, He can make simultaneously. If He could not, this would be because of some limitation in Him, or because of some limitation in the quality, or because of some limitation in the subject of the quality. Therefore, if He could successively produce greater and greater degrees of charity to infinity, He could produce all of these degrees at once, and an infinite degree could be possible.[94]

Ockham agrees that no creature can be infinitely perfect and hence that no quality admits of an infinite degree. But he denies his opponents' second premiss as a *non sequitur*, and tries to persuade us of its falsity by appealing to two analogies. (i) He

90. *Ord.* I, d.17, q.8, (OTh III, 548–49); *Rep.* III, q.8, (OTh VI, 253–54). Both sections contain some obviously invalid arguments as well.

91. *Ord.* I, d.17, q.8, (OTh III, 549); *Rep.* III, q.8, (OTh VI, 256–57).

92. *Ord.* I, d.17, q.8, (OTh III, 547); *Rep.* III, q.8, (OTh VI, 253–54).

93. *Ibid.*, (OTh VI, 255).

94. *Ord.* I, d.17, q.8, (OTh III, 548–49); *Rep.* III, q.8, (OTh VI, 258).

first compares the case of intensive augmentation—the increase of a quality in the same place and first subject—with one kind of extensive augmentation—the increase of something by the addition of parts distinct in place and subject:

> ...For every fire, God can make a fire greater than it is. Nevertheless, He cannot make an infinite fire. Therefore, the same way, although He could always make a greater charity to infinity, it does not follow that He could make an infinite charity. But that, for every fire God can make another fire and make one fire from the two fires...[95]

Thus, to be consistent, his opponents will have to deny the obvious fact that God can make ever greater fires by making a new fire and combining it with the old one, just as much as that He can make an ever more intense charity by continually adding new degrees to a preexisting form.

(ii) Second, he compares intensive augmentation with the increase in the number of individuals of a given kind in real existence. Thus, he maintains that

> ...it is impossible for God to make so many individuals of the same kind that He cannot make more. Nevertheless, He cannot make infinitely many individuals at once. Therefore, by the same token, although God cannot make charity of such a great degree that He could not make a greater charity, it does not follow that He could make an infinite charity.[96]

In defense of the first premiss—that God cannot make so many individuals of the same kind that He cannot make more—Ockham argues that if He could, this would either be (a) because no other individual of that kind can be produced, or (b) because God cannot produce others, or (c) because it is incompatible with the earlier individuals that there should be another individual of the same kind so that another cannot come to exist at the same time as they do. Not (a) because infinitely many individuals of any species can be produced successively, even according to the philosophers. Consequently, there must be in-

95. *Ord.* I, d.17, q.8, (OTh III, 550).
96. *Ibid.*

finitely many that are capable of being produced. Not (b), because God can produce everything producible (with irrelevant exceptions; see Part Five, chapter 28 below). Nor does (c) seem to be an obstacle, for there is more incompatibility between whiteness and blackness than there is between any two individuals of the same kind. Yet, it is possible for whiteness and blackness to exist in reality simultaneouly, although not in the same first and adequate subject. A fortiori, no matter how many individuals of a given kind there are, it is still possible that more individuals of that kind should really exist. Similarly, for the degrees of a quality.[97]

As for his opponents' arguments to the contrary, Ockham thinks that a certain distinction is in order. Sometimes a thing has many potentialities that are parts of one determinate potentiality in the sense that they can be actualized by one single act. For example, each of the parts of the water in a tea kettle is capable of being heated, and these potentialities can be actualized successively—e.g., the parts at the bottom of the kettle closest to the heat become hot first and then the parts in the middle and at the top. Nevertheless, these potentialities are all parts of a single potentiality, which could—at least by divine power—be simultaneously actualized by the introduction of one heat *per se* into the whole water. Other times, "the many potentialities are not parts of one determinate potentiality—i.e., there is no one act that contains all the acts to which these potentialities are directed and reduced to actuality one after another."[98] An example of the latter would be the infinite divisibility of the continuum. No matter how many of its potentialities for being divided are actualized, there still remains in the continuum a potentiality for being divided. But it is not the case that all of these potentialities make up one determinate potentiality, in such a way that they could all be actualized at once by a single act. Thus, while it is possible for each of the potentialities to be actualized successively to infinity, it is not possible that they should be actualized simultaneously by a

97. *Ibid.*, (OTh III, 550–51).
98. *Ibid.*, (OTh III, 562).

single act. In Ockham's opinion, the potentiality of a quality to be increased in degree to infinity is like the infinite divisibility of the continuum.

> ...in the case at hand it is not the case that these potentialities are parts of one demonstrated or determinate potentiality, according to his [i.e., the Commentator's] way of speaking. Therefore, I hold that no one act contains all of the acts to which those many potentialities are directed. Nor can those potentialities be reduced to act simultaneously any more than they can in the division of the continuum. Thus, just as God cannot make so many individual whitenesses or charities or men that He could not make even more and consequently could not reduce all those potentialities by which some possibles are said to be produced in act, so He could not produce any one whiteness or charity that contained every whiteness or charity than can combine with another form of the same kind to make something one *per se*.[99]

Once this is understood argument (9.1) is defeated, and the major premiss of (9.3) is seen to be false as well. If they ask what the obstacle is to to God's producing of these charities at once, Ockham replies "that it is on the part of the charity, because no charity can be produced to which it is repugnant to unite another charity that can be created by God."[100] As for the suggestion in (9.2) that the goal of the infinite process is an infinite degree, this is mistaken. By definition, there is no limit to such an infinite process, but each of the forms produced along the way is only finite.

Turning to specify his own conclusions more precisely, Ockham thinks it necessary to distinguish what is true of a form considered in itself, separated from any subject in which it might inhere, from what can be said about a form insofar as it exists in its subject. So far as the first is concerned, Ockham advances

(T18) Any form that can be intensively increased and that can be separated from its subject can be increased to infinity in such a way that given any such form, God

99. *Ibid.*, (OTh III, 564).
100. *Ibid.*, (OTh III, 566).

can make a greater one,[101]

for the reason stated above: viz., that God can always "make another individual of the same kind and unite it to the first" so that "the resultant whole will be more intense than the first."[102] On the other hand, he observes, "there is more doubt as to whether He could increase such a form in the same first subject" on the ground that the subject by its nature might set certain determinate limits on the degree of quality that can inhere in it.[103] In the *Ordinatio* I, d.17, q.8, Ockham allows that both positions—that the subject by its nature sets a limit on the degree of a quality it can receive, so that not even God can produce a greater degree of that quality in that subject; and the God cannot make so great a charity or other form in a subject, that He could not make a greater—are defensible.[104] And in dealing with the objection that if there is not maximum degree of charity, then there could be a greater charity than Christ's charity, he replies,

> *if the capacity of the subject is no obstacle*, it is not contradictory for there to be a charity greater than Christ's charity. For no contradiction is involved in God's making a charity equal to Christ's charity and uniting it to Christ's charity. Nevertheless, no such charity greater than Christ's charity can exist by God's ordered power.[105]

In *Reportatio* III, q.8,[106] Ockham also lists both alternatives, but there he mentions the first—that there is a limit to how great a degree of a quality God can produce in a subject—only in reply to an objection as one that could be opted for "out of reverence for Christ."[107] Otherwise, one would hold that

(T19) any determinate subject naturally determines for itself

101. *Ibid.*, (OTh III, 557).
102. *Ibid.*
103. *Ibid*; *Rep.* III, q.8, (OTh VI, 261–62).
104. (OTh III, 557–58).
105. (OTh III, 567).
106. (OTh VI, 261–62).
107. (OTh VI, 262).

> a certain formal degree beyond which the same subject cannot receive another, but it does not determine for itself any certain degree such that it could not receive one after another to infinity by supernatural agency.[108]

Thus, in the natural course of things there would be a maximum degree of a quality, beyond which no higher could exist in a given subject. But not even the capacity of the subject would limit the degree that God could introduce into it by His absolute power.

108. (OTh VI, 268).

# 18

# Efficient Causality

Ockham's views about efficient causality are among the most widely misunderstood parts of his philosophy. On the one hand, it is said that he anticipates the empiricism of David Hume by reducing causality to observed correlations[1] and by denying us any *a priori* causal principles.[2] On the other, he is charged with occasionalism[3] and scepticism about our knowledge of particular causal connections.[4] What contemporary scholastics deplore, modern empiricists applaud.[5] All of these interpretations distort Ockham's real position, however. In this chapter, I shall try to make plain what it really is.

## 1. OBSERVED CORRELATIONS AND OCKHAM'S UNDERSTANDING OF EFFICIENT CAUSALITY

Ockham's putative Humean tendencies are seen to follow directly from controversial aspects of his metaphysics and

1. See especially Etienne Gilson, *The Unity of Philosophical Experience*, (New York, 1937), chapter 3, 82–87.

2. Harry R. Klocker, "Ockham and Efficient Causality," *Thomist* XXIII (1960): 106–123. Edward Grant, *Physical Science in the Middle Ages*, (New York, 1971), chap.3, 30. Ernest A. Moody, "Empiricism and Metaphysics in Medieval Philosophy," *Philosophical Review* LXVII (1958): 145–163, repr. in *Studies in Medieval Philosophy, Science, and Logic: Collected Papers 1933–1969*, (Berkeley and Los Angeles, 1975), 287–304.

3. Although occasionalism would be logically incompatible with an analysis of efficient causality in terms of constant conjunction, Gilson nevertheless attributes that "mistake" to him as well *op. cit.*, 83.

4. A. C. Crombie, *Medieval and Early Modern Science*, (New York, 1959), vol.2, 29, 32–33. Cf. Grant, *op. cit.*, chapter 3, 30.

5. Cf. Moody, *op. cit.*, 298–99.

epistemology. (a) First, Ockham maintains that neither causality nor being-an-effect is a thing really distinct from the relata (see Part One, chapter 7 above). If so, however, it seems that there is no real and hence no necessary connection between them. The fact that *A*'s cause *B*'s must, therefore, reduce to contingent correlations between *A*'s and *B*'s.

(b) Again, Ockham is said to have arrived at an analysis of causality in terms of regular sequence by means of a semantic thesis connecting meaning and experience:

(bi) We have no intuitive cognition of any real relation between the putative cause and the putative effect, but only of a regular sequence between phenomena.

(bii) There can be nothing more in concepts than there actually is in intuitions.

(biii) Therefore, 'causality' cannot mean more than a regular sequence between phenomena.[6]

Alternatively, it is suggested that Ockham located causality in the habitual association of phenomena by the mind.[7]

This argument is modelled on Hume's procedure in the *Treatise*. (bii) is analogous to Hume's principle that there are no ideas without corresponding impressions.[8] Restricting this thesis to simple (as opposed to complex) ideas, Hume argues that our belief in power, efficacy, or a necessary connection between causes and effects cannot be traced to any simple impression obtained by examining the objects *A* and *B*. Rather, repeated observations produce in us a memory that in our past experience *A*'s and *B*'s have been constantly conjoined, that *A*'s and *B*'s have been contiguous in space and time, and that *A*'s have been temporally prior to *B*'s.[9] And this experienced cor-

6. Gilson, *op. cit.*, chapter 3, 83.

7. Gilson, *op. cit.*, 87.

8. *A Treatise of Human Nature*, (Oxford, 1978), Book I, Part I, sec. I, 3–4; Part II, sec. V, 65; Part III, sec. II, 74–75.

9. *Ibid.*, Book I, Part III, sec. II, 75–76, 85–88.

relation produces a new impression in the mind: viz., a determination of the mind to pass from an impression or idea of the one to an idea of the other, and vice versa. It is from this "internal" impression that our idea of necessary connection, power, or causal efficacy is produced[10] and then projected by the mind onto the world.[11]

(c) Ockham is thus accused of anticipating both Hume's *philosophical* definition of 'cause' as

> ...An object precedent and contiguous to another, and where all the objects resembling the former are placed in like relations of precedency and contiguity to those objects that resemble the latter...

—that is,

(D1) *A*'s cause *B*'s if and only if (i) *A*'s and *B*'s are contiguous in space and time; (ii) *A*'s are temporally prior to *B*'s; and (iii) *A*'s are constantly conjoined with *B*'s in such a way that whenever there are *A*'s, *B*'s follow and whenever there are *B*'s, *A*'s precede;

and his *natural* definition that

> ...'A cause is an object precedent and contiguous to another; and so united with it that the idea of the one determines the mind to form the idea of the other, and the impression of the one to form a more lively idea of the other'...[12]

10. *Ibid.*, sec. XIV, 165–166.

11. *Ibid.*, 167.

12. *Ibid.*, 169–170; cf. 172. Cf. also *An Enquiry Concerning Human Understanding*, (LaSalle, IL, 1963), sec.6, 83. For a discussion of how Hume can accept both definitions when they are not logically equivalent, see J. A. Robinson, "Hume's Two Definitions of 'Cause'"; Thomas J. Richards, "Hume's Two Definitions of 'Cause'"; and J. A. Robinson, "Hume's Two Definitions of 'Cause' Reconsidered," all printed in *Hume: A Collection of Critical Essays*, ed. V. C. Chappell, (New York, 1966), 129–168. It is also possible to defend the position that Hume admits neither (D1) nor (D2) as a positive philosophical position, nor regards either as an analysis of "our idea" of causality.

—that is

(D2) *A*'s cause *B*'s if and only if (i) *A*'s and *B*'s are contiguous in space and time; (ii) *A*'s are temporally prior to *B*'s; and (iv) the idea of *A* determines the mind to form an idea of *B* and the impression of *A* a more lively idea of *B*, and vice versa.

While the view that Ockham reduced efficient causality to observed correlations is not without textual inspiration, it is clear that he would have rejected both of the above stated arguments. (Ra) Regarding the first, Ockham would agree that 'there is no real thing (*res*) distinct from and connecting *x* and *y*; therefore there is no real connection between *x* and *y*' is a good inference if by 'real connection' one means a distinct and really inhering thing. If so, however, 'There is no real connection between *x* and *y*; therefore, *x* and *y* are not really *connected*' will not hold good. For according to Ockham, causality and being-an-effect are real relations in the sense that if *x* is the cause (effect) of *y*, *x* and *y* are such prior to and independently of any activity of the mind relating them. Further, Ockham recognizes that even where *x* and *y* are not related by a thing really distinct from both, *x* and *y* may be necessarily connected. For he allows that although "God and a creature are two really distinct things (*res*),"[13] and "no creature can exist when God does not exist."[14] Even though neither active nor passive creation is a thing really distinct from and inhering in God or the creature,[15] nevertheless, when both exist, the created thing is necessarily dependent on God and is not made that way by any activity of anyone's intellect. This necessary connection between God and any created thing thus counts as a real relation in Ockham's sense.

(Rb) Ockham would reject the second argument, because he does not endorse the Humean semantic thesis expressed in (bii).

13. *Rep.* IV, q.15, (OTh VII, 324).
14. *Ord.* I, d.27, q.3, (OTh IV, 242).
15. *Ibid.*, d.30, q.1, (OTh IV, 311–12).

As we have already seen (in Part Three, chapter 13 above), Ockham does draw a distinction between intuitive and abstractive cognitions of the same content analogous to Hume's distinction between impressions and ideas. And focussing on simple as opposed to composite contents, he maintains that "every naturally acquired abstractive cognitions of a thing presupposes an intuitive cognition of the same thing,"[16] since "otherwise a man blind from birth could thus have an abstractive cognition of colors the way anyone else can—which is obviously false."[17] Nevertheless, unlike Hume, Ockham believes that we have abstract general concepts, and he argues that we can use them to form composite concepts that are proper to things of which we cannot naturally have intuitive cognitions.[18] Thus, we have a composite concept that applies only to God,[19] and we can form a connotative and negative concept proper to substance in general.[20] Hence, Ockham's epistemology does not force him to draw the inference "We have no sense experience of causality but only of regular sequence; therefore we have no concept of causality beyond regular sequence."

(Rc) Further, if Ockham were to appeal to correlations in analyzing 'causality', it would not be to those identified in (D1) and (D2). Ockham would reject (iv), because—as just pointed out—he insists that causality and being-an-effect are real relations in his sense. Again, Ockham would join Avicenna and his medieval colleagues in rejecting (ii). For if we stipulate only that where *A*'s cause *B*'s, *A*'s are temporally prior to *B*'s, it will be possible for (D1) and (D2) to be satisfied and yet *A*'s not exist at the moment at which *B*'s come into existence. But Ockham reasons that "non-being cannot be said to be a cause of being. Likewise, cause and effect, properly speaking, are said to exist

16. *Ibid.*, Prologue, q. 1, (OTh I, 72).
17. *Ibid.* I, d.3, q.2, (OTh II, 410).
18. *Ibid.*, Prologue, q.1, (OTh I, 65); *Rep.* II, q.12–13, (OTh V, 304); *Summa logicae* II–2, c.29, (OPh I, 559).
19. *Ord.*, Prologue, q.1, (OTh I, 266–68); I, d.3, q.2, (OTh II, 402).
20. *Ibid.*, (OTh II, 416–17).

simultaneously"[21]—a position which Hume explicitly singles out for rejection.[22] Nor would Ockham accept (i), if it is understood to mean that cause and effect must be physically touching or united by a chain of things each of whose links touches the next. For while he grants the assumption of Aristotelian physics that natural causes can act only within a determinate distance of the things they are acting upon—e.g., fire cannot heat wood that is one hundred miles away—his admission that natural causes act at a determinate distance to produce an effect in the patient, is notorious (see Part One, chapter 7 and Part Four, chapter 17).

(1.1) *Observed Correlations As a Criterion of Efficient Causality.* Doubtless, the conviction that Ockham reduced efficient causality to observed correlations is encouraged by his frequent appeal to correlations as a criterion for identifying what is a natural efficient cause of what. For example, he writes,

> although I do not intend to say in general what an immediate cause is, nevertheless, I hold that the following is sufficient for something to be an immediate cause: viz., that *when that absolute thing is posited, the effect is posited, and when it is not posited and all other concurrent conditions and dispositions remain the same, the effect is not posited.* Thus, whatever is related to something this way is its cause, although perhaps not vice versa. Moreover, it seems obvious that this is sufficient for something's being an immediate cause of another. For if it were not, every way of knowing that one thing is the cause of another would perish. For if it did not follow from the fact that *when this is posited the effect follows and when it is not posited the effect does not follow*, that it is the cause of that effect, there is no way in which it can be known that fire is a cause of heat in wood. For one can say that there is some other cause of heat, which nevertheless acts only in the presence of the fire.[23]

Ockham seems to be saying that for *A*'s to be immediate causes of *B*'s, it is enough that (v) when *A*'s are posited, *B*'s are posited,

21. *Rep.* II, q.3–4, (OTh V, 61); cf. *Ord.* I, d.1, q.3, (OTh I, 415); *Quodl.* VI, q.6, (OTh IX, 606).

22. *Treatise*, Book I, Part III, sec. II, 76.

23. *Ord.* I, d.45, q.u, (OTh IV, 664–65).

and (vi) when *A*'s are not posited, *B*'s are not posited. And he implies that the conjunction of (v) and (vi) constitute a criterion, our best way of coming to know, that *A*'s cause *B*'s. Ockham's formulation of these conditions varies considerably from passage to passage, however.

(a) First, there are countless passages in which Ockham says that the efficient cause is that at whose existence another follows, thereby implying that satisfying (v) alone is enough for *A*'s to count as efficient causes of *B*'s.[24] Earlier on in *Ordinatio* I, d.1, q.3, he represents variations on (v) and (vi) (to be examined below) as *alternative* sufficient conditions.[25] And in *Expositio in libros Physicorum*, VIII, t.10, Ockham suggests that satisfying a variation on (vi) is enough.

(b) Some texts replace 'are' and 'are not' with 'can' and 'cannot' in the consequents of (v) and (vi) to yield the suggestion that *A*'s cause *B*'s if (vii) when *A*'s are posited, *B*'s can be posited and/or (viii) when *A*'s are not posited, *B*'s cannot be posited. For example, in *Reportatio* II, q.16, Ockham claims that "that which is such that when it is posited another can be posited, and when it is not posited the other cannot be posited has the aspect (*ratio*) of a cause with respect to that thing."[26] Unlike (vi), (viii) suggests that the existence of *A*'s is a necessary condition for the existence of *B*'s, but (vii) could be read two ways. In some cases, Ockham allows that several things—no one of which is causally sufficient for a given effect—may nevertheless combine to constitute a causally sufficient condition. Thus, Ockham may understand that (vii) is satisfied not just by a causally sufficient condition but by part of a sufficient condition as well, given partial cause *A*, *B*'s can be posited provided that the other partial causes *C*, *D*, etc. are present. This construal does not make (vii) redundant, given (viii). For Ockham allows that "there can be many," alternative, sufficient "causes of the same effect,"[27] so that the existence of *A*'s could be part of a

24. *Ibid.*, d.1, q.3, (OTh I, 417); *Expos. Physicorum* II, t.30, (OPh IV).
25. (OTh I, 416).
26. (OTh V, 366); cf. *ibid.*, q.12–13, (OTh V, 276).
27. *Ord.* I, d.1, q.3, (OTh I, 416–17).

sufficient condition without also being a causally necessary condition.

Alternatively, in his *Expositio in libros Physicorum* II, t.34, Ockham takes note of Aristotle's distinction between potential and actual causes.[28] We call a person a builder, not because he is actually engaged in causing a house to exist, but because he has the skill, knowledge, etc. that make him able to do so; the builder who is not now building is a potential cause of houses, while the builder at work is an actual cause. Thus, Ockham may understand (vii) to refer to potential causally sufficient conditions of some effect. For example, fire (or the heat in fire) is a potential causally sufficient condition of heat in wood. But since Ockham thinks that natural causes can act only when they are close enough to some patient, it may be that the fire is not actually producing any heat in wood, because all of the wood is too far away.

(c) Some passages make additions to the antecedents of (v) and (vi). Thus, *Ordinatio* I, d.7, q.1 suggests the replacement of (v) with

> (ix) when *A*'s are posited and everything that is not a cause of *B*'s is left aside, *B*'s can be posited.[29]

If the added clause is read meaning "everything that is not an *efficient* cause of *B*'s left aside," (ix) becomes an implausible sufficient condition of *A*'s counting as efficient causes of *B*'s. For so understood, (ix) could be satisfied if some efficient causes which are by themselves sufficient for *B*'s existed whenever *A*'s existed. But the text makes clear that Ockham intends the satisfaction of (ix) to be a sufficient condition of *A*'s counting as efficient causes of *B*'s. The text of the *Summulae Physicorum* suggests the more plausible interpretation that 'cause' in (ix) refers to material causes, when it defines the total efficient cause as that "which produces the effect, when everything else that is not the subject of a form is left aside."[30] For example, fire is

28. Fol.21va, (OPh IV).
29. (OTh II, 114).
30. II, c.3, 35.

an efficient cause of heat, but it does not produce heat when there is no subject—i.e., no combustible or heatable material—available for the heat to be produced in. Either way, the alternative addition of "regardless of what else is left aside" in *Reportatio* II, q.12–13, (OTh V, 276) and in *Expositio in libros Physicorum* II, t.33, fol.21va, (OPh IV) will have to be regarded as carelessness on Ockham's part.

*Ordinatio* I, d.1, q.3 and *Expositio in libros Physicorum* VII, t.12 add "regardless of what else is posited" to the antecedent of (vi), yielding

(x) when *A*'s are not posited, regardless of what else is posited, *B*'s are not posited.[31]

And *Expositio* II, t.33 makes a similar suggestion but replaces 'are not' with 'could not' in the consequent.[32] (x) is not a plausible requirement for *A*'s counting as efficient causes of *B*'s, if it is possible for there to be alternative causally sufficient conditions of the same effect. Ockham prefaces his introduction of (x) with the concession of such a possibility and clearly intends (x) as enough but not required.

(d) Again, some of Ockham's formulations make additions to the consequents of (v) and (vi). *Reportatio* II, q. 19, (OTh V, 419) replaces (vi) with

(xi) when *A*'s are posited, *B*'s can be posited naturally,

and *Reportatio* II, q.12–13, (OTh V, 276) substitutes

(xii) when *A*'s are not posited, *B*'s cannot be posited naturally

for (vi). The insertion of 'naturally' could be seen as leaving open the possibility that the effect could be produced without *A*'s supernaturally. But for reasons that will become clear in

31. (OTh I, 416) and fol.90va–vb, (OPh IV).
32. Fol.21va, (OPh IV).

connection with *Reportatio* IV, q.1, it seems more likely that Ockham intended to contrast 'naturally' with 'by a voluntary agent'.

(1.2) *Does Ockham Reduce Efficient Causality to Observed Correlations?* Despite Ockham's frequent recourse to correlations such as (v) and (vi) as criteria in identifying natural efficient causes, two passages make clear that he did not regard them as logically sufficient and hence not as definitive of efficient causality. (*e*) Having insisted at *Reportatio* II, q.3–4 that "God is the kind of agent that can be the total cause of an effect with the occurrence of anything else,"[33] Ockham observes,

> It follows from this that it cannot be *demonstrated* that any effect is produced by a secondary cause. For even though when fire is close to combustible material, combustion always follows, this fact is, nevertheless, consistent with fire's not being the cause of it. For God could have ordained that whenever fire is present to a close-by patient, the sun would cause combustion [in the patient]; just as He ordained with the Church that when certain words are spoken, grace is produced in the soul. Thus, there is no effect through which it can be proved that anyone is a human being—especially through no effect that is clear to us. For an angel can produce in a body everything that we see in a human being—e.g., eating, drinking, and the like. This is clear from the case of the angel in the book of *Tobit*. Therefore, it is not surprising if it is impossible to demonstate that anything is a cause...[34]

Ockham says that even though fire and combustion satisfy condition (v)—viz., that when *A*'s are posited, *B*'s are posited—that is not enough to demonstrate that fire is a cause of combustion. For God, who can bring about whatever can be brought about, could have ordained that while the above correlation obtains, the sun causes the combustion whenever the fire is close to the combustible material. If it is logically possible for fire and combustion to satisfy condition (v) without fire's being the cause of combustion, then the fact—if it is a fact—that fire causes combustion cannot *consist in* their satisfaction of condition (v). It follows further that (v) does not constitute an analysis of what

33. (OTh V, 72).
34. (OTh V, 72–93).

Ockham *means* by saying that *A*'s are efficient causes of *B*'s. Similarly for the disjunction of (vii), (ix), or (xi) with (viii), (x), or (xii) or the conjunction of any of (vii), (ix), or (xi) with (xii): God could have ordained that their satisfaction was merely the occasion for something else to produce the effect. And if the latter is logically possible, efficient causality cannot consist in the obtaining of these alternative correlations either.

(f) Ockham makes this point more systematically in *Reportatio* IV, q.1, where he is discussing whether the sacraments of the New Law are efficient causes of grace. Some argue that they are:

> For that which when it is posited another is posited, is the cause of that thing. This is clear from what Aristotle says in *Metaphysics*, Book V: "A cause is that at whose existence another follows." But when the sacrament is posited, grace is posited, and when the sacrament is removed, grace is removed. Therefore, it is a cause of grace in some genus of cause, and only in the genus of efficient cause. Therefore, etc.[35]

Again,

> ...It seems that everything such that when it is posited another is posited, is a cause properly speaking; for it does not pertain to the notion of cause (*ratione causae*) that the effect follows necessarily, but that the effect cannot exist without it. Therefore, it is enough that when it is posited the effect is posited and that the effect is not posited without it. Therefore, the sacraments are causes properly speaking.[36]

To the first, Ockham replies that

> ...it is true [that one is the cause of the other], if it is so [i.e., that when one is posited the other is posited and when it is not posited the other is not posited] by the nature of the thing (*ex natura rei*). But when it is so by the will of another, it is not true. This is the way it is in the case at hand.[37]

35. *Ibid.*, (OTh VII, 3).
36. *Ibid.*, (OTh VII, 15).
37. *Ibid.*, (OTh VII, 18).

And to the second, he maintains that

> ...it pertains to the notion of cause (*ratione causae*) that it could by its own power (*virtute propria*) be followed by the effect, by the nature of the thing and naturally. This is not the way it is in the case at hand. Rather [one follows another] only by the divine will.[38]

Thus, Ockham thinks that we must distinguish in general causes properly speaking and causes *sine quibus non*:

> ...'cause', since it is that upon whose existence another follows, can be taken in two ways: One way, when by the nature of the thing (*ex natura rei*) at the existence and presence of one, the existence of the other follows naturally. Another way when at the existence and presence of one the other follows by the mere will of another. And this way we maintain that a meritorious act is called a cause of rewards by divine volition alone. And a *sine qua non* cause is said to be a cause the second way.[39]

Ockham's point is that *A*'s are, properly speaking, causes of *B*'s, only if the correlations between *A*'s and *B*'s hold by the nature of *A*'s or by *A*'s own power (*virtute propria*). If the correlations hold because something other than *A*'s and *B*'s wills them to hold, then *A*'s are only causes *sine qua non* of *B*'s. Returning to the examples of *Reportatio* II, q.3–4, (OTh V, 72–73), the correlations between certain words being said and grace being produced in the soul hold because God wills them to hold. Consequently, the words are only a cause *sine qua non* of the grace, while God is its cause properly speaking. Ockham suggests that it is logically possible that the correlations between fire and combustion should hold, not by the fire's own power, but by divine institution. If they did, fire would be at most a cause *sine qua non* of combustion, and not a cause properly speaking. By introducing the unanalyzed notion of power (*virtus*) into his explanation of what it is to be a cause properly speaking, Ockham appears to disassociate himself from the reductive analysis for-

38. *Ibid.*, (OTh VII, 17).
39. *Ibid.*, (OTh VII, 12).

mulated in (D1).[40] And Hume himself noted that his proposed definitions would deprive "that distinction which we sometimes make betwixt efficient causes, and causes *sine qua non*" of any foundation.[41]

It may be objected that while a belief in powers is certainly unHumean, Ockham's appeal to them is fully compatible with a reduction of efficient causality to correlations. For the difference between the sacraments and combustion is merely that in the latter case a power (*virtus*) is correlated with the effect, whereas in the former something else is.

This is an inaccurate construal of Ockham's position, however. For Ockham, a power (*virtus*) is nothing really distinct from the efficient cause properly speaking. For example, the heat in fire *is* the power (*virtus*) to produce heat in something. Fire is a cause of heat by courtesy (*per accidens*; see section (2.3) below) insofar as it has heating-power (that is identical with the heat) inhering in it. On his view, any created thing (*res*) is and/or has some power or other. The words spoken by the priest in the sacrament have or are the power to produce an intuitive cognition in a subject, for example (see Part Three, chapter 13 above). If every created thing is or has the power (*virtus*) to produce something, the claim will have to be that where *A*'s are efficient causes of *B*'s, not only do *A*'s and *B*'s satisfy (v) and/or (vi) (or variations thereupon), but also *A*'s are powers (*virtus*) to produce *B*'s. But now it seems that the correlations have become superfluous. For even if *A*'s being the power (*virtus*) to produce *B*'s does not *consist in* the obtaining of the correlations, it *implies* that such correlations would obtain if *A*'s existed in the appropriate circumstances. And Ockham has told us that the correlations are neither logically nor (in the case of sacraments) *de facto* sufficient for *A*'s to count as efficient causes of *B*'s. Hence, what is crucial for whether *A*'s are efficient causes of *B*'s is whether *A*'s are or have the power (*virtus*) to produce *B*'s after all.

40. *Rep.* IV, q.1.

41. *Treatise*, Book I, Part III, sec. XIV, 171.

Further, Ockham could construct a case parallel to that of *Reportatio* II, q.3–4, (OTh V, 72) to show that this *A*'s being an efficient cause of this *B* cannot consist in (a) *A*'s and *B*'s satisfying (v) and/or (vi), and (b) this *A*'s being a power (*virtus*) to produce this *B*. For God can bring it about that (a) and (b) obtain, and yet refrain from cooperating with this *A* and act to produce this *B* all by Himself. This *A*, this *B*, and God must be some other way still, if this *A* is to be the efficient cause of the *B*.

(1.3) *Does Ockham Believe in Necessary Connections between Cause and Effect?* We have already seen how Ockham thought things could be necessarily connected, even if there were no relative things (*res respectivae*) connecting them. Does he allow any such necessary connections among created causes and their effects? The answer is that he does.

(1.3.1) First of all, Ockham follows the common endorsement of the uniformity of Nature Principle that "causes of the same kind have effects of the same kind,"[42] or more precisely that "all agents of the same most specific species are able to bring about effects of the same kind,"[43] or more precisely that "all agents of the same most specific species are able to produce effects of the same kind,"[44] or focussing on the case of qualities,

> when some things are of the same species, if one does not have as much power as another, the former can be increased until it attains the same effect as the other. For example, a lesser heat can be increased to the point that it can produce as great an effect as a greater heat can.[45]

He refers to the second version as an extrinsic mean of a formal inference[46] and hence must regard it as a necessary truth. Ockham commits himself to

(A) Where $S_m$ is a species and does not admit of degrees, necessarily, if $x$ is a member of $S_m$ and $x$ is a power (*vir-*

42. *Ord.*, Prologue, q.1, (OTh I, 42).
43. *Ibid.*
44. *Ibid.*, q.2, (OTh I, 91–92).
45. *Rep.* II, q.20, (OTh V, 362); cf. (OTh V, 377).
46. *Ord.*, Prologue, q.2, (OTh I, 91–92).

*tus*) to produce something of species $S_n$, then every member of $S_m$ is a power (*virtus*) to produce something of species $S_n$,

and

(B) Where $S_m$ is a species that admits of degrees, necessarily, if $x$ is a member of $S_m$ and $x$ is of degree $n$ and $x$ is a power (*virtus*) to produce something of species $S_n$ (and degree $m$), then any other member of $S_m$ that is a degree of $n$ is a power (*virtus*) to produce something of species $S_n$ (and degree $m$).

Although there is no mind-independent universal thing inhering in all members of a given species, co-specific things are genuinely similar independently of what anyone thinks about it, and they are necessarily similar as regards what they can cause properly speaking. In fact, Ockham appeals to (A) and (B) as criteria of co-specificity in arguing that intuitive cognitions are of different species from abstractive cognitions. Further, Ockham insists that

> if an absolute thing or property consequent to an absolute thing pertains to one individual of a given kind, a similar thing can pertain to any individual of that kind[47]

is a "necessary and evident" means of proof, as well. Hence it follows that if this fire can produce heat in this log by means of heat inhering in it, it is possible that any fire be able to produce heat by means of heat inhering in it.

It might be pointed out, however, that Ockham's adherence to the Uniformity-of-Nature Principle does not, by itself, show him to be all *that* unHumean. After all, Hume would think it necessary that if this $A$ is an efficient cause of this $B$, in general, $A$'s are efficient causes of $B$'s. But he would not explain this in terms of any necessary connection among things. Rather it is

47. *Ibid.*, (OTh I, 94).

analytic, following his definition of efficient cause: this *A* and this *B* get the labels 'efficient cause' and 'effect' only because the general correlation holds.

(1.3.2) Nevertheless, Ockham makes an unequivocal departure from Humean lines when he admits necessary connections among particulars—and this not only between God and each and every creature but also between particular creatures themselves. In the *Reportatio*, Ockham considers and rejects the thesis "that the same effect can be produced by two natural causes" acting simultaneously,[48] where the causes in question are total causes in the sense that if either were posited and every other creature that is not a material cause of the effect were left aside, the effect could be posited. He then uses this claim as a premiss to argue for the logical impossibility of alternative created total causes of a given effect. He writes,

> ...every naturally producible effect by its very nature determines itself to be produced by one efficient cause and not another, just as it determines itself to be produced in one matter and not another. For if this were so, it follows that the same effect would be produced in different matters by different agents which is impossible. The assumption is clear: suppose there were two agents—say two equally intense heats and two equally disposed matters of the same kind, and just as close to one as to the other in every respect, and this at the same instant. This is indeed possible. Then, according to your claim—that the heat to be produced does not determine itself to be produced by either of these agents—the heat will either at one and the same time be produced in the two matters by both [agents], or neither will produce the heat. For each is a natural agent close to the patient, and there is no obstacle. Given that the effect is no more determined to one than to the other, and each matter is equally close to both, either the same effect will be produced by each agent in each matter or in none. Each consequence is awkward. Therefore, it is necessary that an effect determine itself to one agent of the same kind and not the other in such a way that it can be produced by one and not by the other...[49]

According to Ockham, it is naturally impossible for two created natural agents to act simultaneously to produce numerically the

48. IV, q.2, (OTh VII, 249–250); II, q.12–13, (OTh V, 287–88).
49. *Ibid.*, (OTh V, 288–89).

same heat in two different matters. He thinks that the only possible explanation for this is that each possible particular heat "determines itself" to a particular agent and a particular matter. Thus if $heat_1$ is in fact produced in matter by $heat_2$, it is impossible for $heat_1$ to be produced in any other matter by any other heat. Likewise, if an intuitive cognition of a white patch ($I_1$) were produced by a particular white patch ($W_1$) as opposed to another equally similar white patch ($W_2$), it would be impossible for $I_1$ to be produced by any other white patch. Such determination is apparently prior to the existence of the particular effect. And even if the particular should be produced by God acting alone, it would still be the case that this is the only heat or the only particular whiteness that could have produced it.[50] Thus, Ockham appears to believe

(C) Where $S_m$ and $S_n$ are species, and $x$ and $y$ possible creatures, if $S_m$'s cause $S_n$'s, then (y) (if $y$ is an $S_n$ and (Ex) ($x$ is a member of $S_m$ and $x$ is or has the power (*virtus*) to cause $y$, then necessarily, (if $y$ is caused by a member of $S_m$, $y$ is caused by $x$))).

Does Ockham think that if $heat_1$ is in fact produced by $heat_2$ and hence not even possibly by any other heat, then it is nevertheless logically possible that $heat_1$ should have been produced by a creature of some other kind instead? He should not have. For the argument offered in defense of (C) would apply equally well to the more general thesis

(D) Suppose $S_m$'s, $S_n$'s,...are the only kinds of creatures that can be total causes of $S_i$'s. Then (y) (if $y$ is a member of $S_i$, (Ex) ($x$ is a member of $S_m$ or $S_n$ or...and $x$ is or has the power (*virtus*) to cause $y$, and necessarily (if $y$ exists, either $y$ is caused by $x$ or $y$ is caused by God acting alone))).

For if $S_m$'s can produce $S_i$'s in circumstance $C$, and $S_n$'s can pro-

50. *Ibid.*, (OTh V, 287–88).

duce $S_i$'s in circumstances $C'$, we can imagine a case in which an $S_m$ is in $C$ and an $S_n$ in $C'$ simultaneously. Ockham will have the same reason for denying that each is the total cause of numerically the same $S_i$ coming to exist in numerically the same matter as he had for denying that two $S_m$'s could simultaneously be the total cause. Not surprisingly, then, we find Ockham taking (D) for granted in *Reportatio* IV, q.12, (OTh VII, 250), when he argues that if each of two natural causes is or has enough power (*virtus*) to produce heat in some matter all by itself, and yet they act together simultaneously to produce a single heat in that matter, in the latter case each will be only a partial cause of the heat, and the heat will be numerically distinct from the heat that either could have produced all by itself.

In (C) and (D) Ockham strays far from the Humean fold. But was he content to graze in more metaphysical pastures for long? The textual evidence is mixed. He seems to have (C) and (D) in mind in *Quodlibeta* I, q.13, when he explains that an intuitive cognition is proper to a particular "because it has or is apt to have that particular as an immediate cause and is not apt to be caused by another particular, even one of the sample species."[51] On the other hand, Ockham's original argument for (D) was based on the impossibility of numerically the same effect's being simultaneously produced by two total natural causes. As we shall note again below, Ockham had reversed himself by the time he wrote *Quodlibeta* I, q.1, where he insists that if "a total cause is said to be that which is such that when it is posited and everything else is left aside, the effect can be sufficiently produced," "*numerically* the same effect can have two causes simultaneously. For example, numerically the same heat can be produced by the sun and by fire and by two fires..."[52] Yet, even this passage does not entirely repudiate the thesis that there are necessary connections among particulars but only allows for the possibility that a given created effect "determine itself" to more than one particular case.

51. (OTh IX, 73).
52. (OTh IX, 8–9).

## 2. TRADITIONAL DIVISIONS AMONG EFFICIENT CAUSES

Ockham follows the medieval practice of distinguishing between total and partial, universal and particular, *per se* and *per accidens*, immediate and mediate (proximate and remote) efficient causes. (2.1) *Total versus Partial.* Given Ockham's thesis that

(E) *A*'s are efficient causes of *B*'s if and only if the power (*virtus*) of *A*'s acts somehow or other to produce or conserve *B*'s,

he could easily have drawn this contrast by saying that

(F) *A*'s can be total efficient causes of *B*'s if and only if *A*'s have enough power (*virtus*) all by themselves to produce or conserve *B*'s

and

(G) An *A* is *de facto* a total efficient cause of *B* at *t* if and only if the power that *A* exercised at *t* was enough, all by itself, to produce or conserve that *B*;

while

(H) An *A* is a partial cause of a *B* at *t*, if and only if the power exercised by *A* and *t* was not enough, all by itself, to produce or conserve that *B* at *t*, but it combined with that of others to produce or conserve *B* at *t*.[53]

Thus, as omnipotent, God is always a possible total cause of every creature.[54] Because He is an agent that acts freely and contingently, it cannot be demonstrated (by an argument with

53. *Rep.* II, q. 3–4, (OTh V, 63–64).
54. *Ibid.*

necessary premisses and conclusion) that He is not a *de facto* total cause of every creature.[55] Nevertheless, medieval theology insisted that He is not a *de facto* total cause of everything; for if He were, created causality would be superfluous. Rather he chooses not to act to the limit of His power, but to act together with a creature as a partial cause of most effects.[56]

Instead of explaining the distinction between total and partial causes in terms of what is essential to being an efficient cause, however, Ockham attempts to provide us with criteria for picking them out. And once again, he appeals to correlations, passing over (F)–(H) to offer

(J) "the total cause is that cause such that when it is posited and everything else is left aside, the effect is posited..."[57]

This formulation is open to several objections, however. (a) The first arises because for Ockham it is things, not states of affairs that are causes. But it is obvious that a thing that is an efficient cause may be such that during some moments of its existence it produces an effect, while at others it does not. Even natural causes, such as fire or the heat in fire, which always act to the limit of their power unless there is some impediment,[58] will not act when there is an impediment. For example, heat in fire may exist without producing heat in water, if the water is too far away. It is not clear whether or not Ockham wants to say that, for this reason alone—i.e., that it depends on something else to bring it close enough to the patient—the heat is never the total cause in anything else. More importantly, free voluntary agents such as God and the human will do not always act to the limit of their power. Thus, a voluntary agent who has the power to produce *B*'s may exist ("be posited") at a time at which no *B's* are produced, simply because it chooses not to act to the limit of its power. Ockham meets this difficulty by trying to distinguish *de*

55. *Ibid.*, (OTh V, 72–73).
56. *Ibid.*, (OTh V, 72).
57. *Ibid.*, (OTh V, 63).
58. *Ibid.*, (OTh V, 57).

*facto* and possible total efficient causes in terms of correlations:

(K) This *A* is a *de facto* total cause of this *B*, if and only if when this *A* is posited and everything else is left aside, this *B* is posited.

whereas

(L) This *A* is a possible total cause of *B*'s, if and only if when this *A* is posited and everything else is left aside, a *B* can be posited.[59]

Given divine omnipotence, however, (L) is always trivially satisfied, if everything else means 'every other creature'. For no matter what creature is posited, God has enough power to produce any other creature. Again, it seems that heat in fire might be *de facto* a total cause of heat in water without satisfying (K). For if the heat is in the fire, then the heat *is* posited, but it is not the case that everything else—e.g., the fire—is left aside. And in general, *A*'s might be possible or *de facto* total causes of *B*'s, even if *A*'s never were posited with everything else left aside. It seems at least that some counter-factual formulation such as

(M) This *A* is *de facto* (can be) a total cause of this *B*, if and only if if this *A* were posited and every other creature were left aside, this *B* would be (could be) posited,

is needed.

(b) The text of the *Summulae Physicorum* replaces (F) with

(N) "the total cause" is "that which, when everything else *that is not the subject of a form* is left aside, produces the effect."

Thus, "when nothing but wood acts together with fire to pro-

59. *Ibid.*, (OTh V, 63).

duce heat, the fire is the total efficient cause, or more properly the sufficient or precise cause of the heat.''[60] The thought here is that fire, or the heat in fire, cannot naturally produce heat, if there is nothing available for the heat to be produced in—i.e., no material cause of the heat production. But according to the treatment in the *Summulae Physicorum*, this fact does not thereby disqualify fire, or the heat in fire, from being a total *efficient* cause of the heat. In *Reportatio* II, q.3–4, Ockham explains that

> ...God insofar as He is creator of form, does not necessarily produce it in matter nor does He necessarily require the concurrence of matter, since He can produce any absolute form without matter, and He does not produce it in matter unless He wants to act as a partial cause together with a secondary cause that necessarily requires matter and cannot cause its effect otherwise. Therefore, he absolutely creates any such absolute form and does not generate it. Likewise, since a secondary cause necessarily requires, in its action, matter acting together with it and cannot cause its effect otherwise, the secondary cause is therefore such simply to generate and not create.[61]

Since no creature can create, ''no creature can be a total natural cause of a creature''[62] according to the criterion formulated in (K), but *at most* according to that indicated in (N).

(c) A total efficient cause is a sufficient efficient cause of the effect. Is it also necessary? None of (J)–(N) implies that it is, and in *Reportatio* II, q.3–4 Ockham denies it:

> ...Therefore, what John [Duns Scotus] says—that the total cause is one such that when it is posited, the effect is posited and when it is not posited, the effect cannot be posited—is not true. For as we said elsewhere, the same effect can have two total causes, and if one of them were destroyed, the other can cause it nonetheless. Rather, as was said, the total cause is that which is such that when it is posited and everything else is left aside, the effect can be posited.[63]

60. *Summulae Physicorum* II, c.3, 35.
61. (OTh V, 76).
62. *Ibid.*, q.7, (OTh V, 91).
63. (OTh V, 64).

On Scotus's definition, a total cause is both necessary and sufficient for the effect; and so understood, "it is a contradiction that there should be two total causes of one effect."[64]

The extent of Ockham's disagreement with Scotus is neither fully clear nor constant, however. (ci) Sometimes he seems eager to insist on the possibility of *alternative* causally sufficient conditions of *specifically* the same effect. Thus, in *Ordinatio* I, d.1, q.3, he allows that "the same effect can have many causes," and that we can be convinced of this through experience if when fire is posited and everything else is taken away, heat follows in nearby combustible material, and likewise when the sun is close enough to the combustible material, and everything else including the fire is taken away, heat follows in the material.[65] The same point is repeated in *Expositio in libros Physicorum:*

> ...sometimes, however, the cause is so related to the effect that the caused thing can be posited in existence by another cause without the former cause. For example, that wood can be heated by the sun and can be heated without the sun, since it can be heated by the fire...[66]

Fire and sun are of different species. But Ockham will say (see section (2.3) below) that neither substance is the cause of heat on its own (*per se*); rather each is only because heat inheres in it (*per accidens*). Thus, whether in fire or in the sun, specifically the same heat produces or conserves heat in each case. The most Ockham's examples show is that specifically the same effect can have many alternative causes *per accidens*.

(cii) In *Reportatio* IV, q.12, Ockham maintains that *numerically* the same effect can have distinct total causes *in succession:*

> ...say, if one total cause produces an effect and that cause is destroyed

64. *Quodl.* I, q.1, (OTh IX, 9).
65. (OTh I, 416).
66. II, t.74, fol.26ra, (OPh IV); cf. t.86, fol.28ra, (OPh IV); t.89, fol.28va, (OPh IV).

> and another of the same species and of altogether the same power is posited, then the latter cause would conserve the same effect. For example, if the sun were destroyed and another sun of altogether the same power were put in its place, the second sun would conserve numerically the same light in the medium as the first sun produced...[67]

(ciii) As we have already seen in *Quodlibeta* I, q.1 Ockham goes further and admits that where "a total cause is said to be that which is such that when it is posited and everything else is left aside, the effect can be sufficiently produced," "*numerically* the same effect can have two total causes *simultaneously*. For example, numerically the same heat can be produced by the sun and by fire and by two fires..."[68] Thus, over-determination by created causes is at least logically possible. In the *Reportatio*, however, he made the opposite assumption, considering and rejecting the thesis "that the same effect can be produced by two natural causes" acting simultaneously.[69] To be sure, Ockham does allow that

> two causes act to produce one effect at one and the same time, where one total cause is God and the other is a secondary cause acting together with God. For example, if this heat were a cause sufficient to produce another heat of degree *a* in such a way that no other secondary cause were required to produce that heat, then the heat can at one and the same time be produced by the heat as a total cause and likewise by God...[70]

Yet, while a creature may be a total cause of some effect in the sense of satisfying

(O) This *A* is *de facto* (can be) a total cause of this *B*, if and only if if this *A* were posited and every other creature that is not the subject of a form were left aside, the latter would (could be) posited,

67. (OTh VII, 249–250).
68. (OTh IX, 8–9).
69. IV, q.12, (OTh VII, 249–250); II, q.12–13, (OTh V, 287–89).
70. *Ibid.* IV, q.12, (OTh VII, 249).

"a creature cannot be a total cause" in the sense of satisfying (N), "because God always acts together with it."[71] Further, God is a voluntary and not a natural case.[72] Hence the cooperation of God and creatures is no exception to Ockham's *Reportatio*-contention that *numerically* the same effect cannot have two created, total, natural causes *simultaneously*.

(civ) Finally, we have seen above how Ockham denies the logical possibility of two created total natural causes actually acting simultaneously to produce numerically the same effect and hence rejects the logical possibility of *alternative* created total causes.

A partial cause is a cause that does not suffice by itself to produce the effect, but which combines with one or more other agents none of which is *de facto* a total cause to yield a causally sufficient condition for the effect's being produced.[73] Since there may be alternative sufficient conditions of a given type of effect, a partial cause need not be causally necessary for the effect, since it may not be a component of all of the alternative sufficient conditions. Ockham thinks that as a matter of fact, God acts as a partial cause in the production of every creature.[74]

(2.2) *Universal versus Particular.* The distinction between universal and particular efficient causes most often presupposed in late thirteenth and fourteenth century discussions is not one that Ockham bothers to make very precise. In the *Summulae Physicorum*, Part II, chapter 3, we read that universal causes are those that act together with different causes to produce the various effects of those causes, whereas particular causes have power with respect to only one effect or at least with respect to fewer effects, even when they act together with others.[75] God, as omnipotent, and as a partial cause of every creature, is a universal cause *par excellence*; while the sun, whose motion is a

71. *Ibid.*
72. *Ibid.*
73. *Ord.* I, d.45, q.1, (OTh IV, 664–65); cf. *Summulae Physicorum* II, c.3, 35.
74. *Rep.* II, q.3–4, (OTh V, 60); IV, q.9, (OTh VII, 168).
75. C.3, 36.

necessary condition of all generation and corruption among sublunary bodies, is the paradigm case of a created universal cause. Later on, we read that 'universal cause' is taken broadly "for that which has power over many effects successively" and strictly "for that which has power over many effects simultaneously—whether as a sufficient or an insufficient cause."[76] Thus, the sun acts simultaneously as a partial and universal cause in the generation of a human being and a donkey, while the parent human beings and donkeys are particular causes of those effects. In the *Expositio in libros Physicorum*, Book II, text 32, Ockham parallels Aquinas, Giles of Rome, and Walter Burleigh in identifying the cause whose range of effects is less limited (i.e., the universal cause) with the prior cause; that whose range is more limited (i.e., the particular cause) with the posterior cause. "For example, the sun is prior to a human being, because the sun has more effects than a human being does."[77]

The labels 'universal cause' and 'particular cause' might seem to mark a different distinction, however: viz., that between causes that are universals and causes that are particulars. Walter Burleigh put just this interpretation on Aristotle's assertion in *Physics*, Book II, chapter 3, that universal causes are causes of universal effects, and particular causes of particular effects (e.g., statues are caused by sculptors, and this statue is caused by this sculptor) (195b25–27). Burleigh explains that "the Commentator says that the Philosopher holds this to avoid holding Plato's opinion, which says that universals are causes of particulars," and concludes that "from this citation, it seems that universals exist outside the mind, because they are genuine causes and genuinely caused."[78] In his *Expositio in libros Physicorum*, however, Ockham emphatically rejects this interpretation:

> Notice that the Philosopher does not mean to say that universals are

76. *Ibid.*, c.10, 43.
77. Fol.21rb3, (OPh IV).
78. *Super octo libros Physicorum*, (Venice, 1491), tractatus III, c.2.

> really causes of universals, because all universals are mental intensions, and one mental intension does not cause another...[79]

The *Summulae Physicorum* adds that even if universals were supposed to exist independently of the mind, universals would not be causes of universals. For such mind-independent real universals are supposed to be incapable of generation and corruption and to be eternal. "But what is before every action is not an effect of that action."[80] Rather, Ockham contends, the Philosopher

> ...means that the intention 'cause' is predicated of universals, but not insofar as they are taken for universals but insofar as they are taken for particular things. For every cause is a particular thing...[81]

Thus, in 'Every man is a cause', 'Fire is the cause of fire', 'Air is the cause of air', etc., the universal concept 'cause' is predicated of the universal concepts 'man', 'air', 'fire', etc. Similarly, 'Every statue is made by a sculptor' is composed of the universal concepts 'statue' and 'sculptor', while 'This statue is made by this sculptor' involves the singular terms 'this statue' and 'this sculptor'.[82]

(2.3) *Per Se versus Per Accidens Efficient Causes.* In *Ordinatio* I, d.2, q.10, Ockham explains that

> ...a cause *per se* is one that causes, not through something else really distinct from it, but through itself, in such a way that when it is posited and everything else that is not a cause in any genus of cause is left aside, it will be possible for the effect follows...[83]

whereas

> ...a cause *per accidens* is one that acts through something other than

79. II, t.38, fol.22ra, (OPh IV).
80. II, c.10, 43, (OPh VI).
81. *Ibid.*
82. *Expos. Physicorum* II, t.38, (OPh IV); *Summulae Physicorum* II, c.10, 43.
83. (OTh II, 345).

itself. But only a subject or a whole that has a part by which it acts is such a cause...[84]

Thus, given (A), Ockham may be said to hold that

(L′) *A* is a *per se* efficient cause of *B*, if and only if it is the power of *A* and not (merely) that of something really distinct from *A* that produces or conserves *B*,

while

(M′) *A* is a *per accidens* efficient cause of *B*, if and only if it is not the power of *A* but the power of something really distinct from *A* and that is a part of *A* or that inheres in *A* that produces or conserves *B*.

Thus, fire is not a *per se* efficient cause of heat, because it is the power of something really distinct from and inhering in the fire—viz., the quality of heat—that produces heat in something else. But fire does thereby qualify as a *per accidens* efficient casue of heat. Similarly, Socrates is not a *per se* efficient cause of his thoughts and volitions, because it is the power of something really distinct from and part of Socrates—viz., his intellectual soul—that produces these thoughts and volitions. Socrates is only a *per accidens* efficient cause, while his intellectual soul is a *per se* efficient cause of his thoughts and volitions.[85]

In the above quoted passage, Ockham tries to match up (L) with correlations that will serve as a criterion for distinguishing *per se* from *per accidens* efficient causes. His specific proposal is that

(N′) *A*'s are *per se* causes of *B*'s, if and only if when *A*'s are posited and everything else that is not a material, formal, or final cause of *B*'s is left aside *B*'s can be posited.

84. (OTh II, 344).

85. *Ibid.*, (OTh II, 344–45); *Expos. Physicorum* II, t.33, fol.21va, (OPh IV).

If (N′) is replaced with

(O′) *A*'s are *per se* causes of *B*'s, if and only if if *A*'s were posited and everything else that is not a material, formal, or final cause of *B*'s were left aside, *B*'s could (would) be posited,

for the reasons that prompted a replacement of (K) and (L) with (M), then it seems that only actual or possible total causes can be *per se* causes—a consequence that fits neither Ockham's examples nor his contention that no creature can be a total cause of anything. For Ockham has allowed that the soul is a cause *per se* of intellectual intuitive cognition, even though the object must act together with it as a partial efficient cause. And heat is *per se* the cause of another heat, even if God acts together with it as a partial efficient cause. This suggests that 'can' in the consequent of (N′) should be interpreted the other way to mean "*B*" will be posited if the other partial efficient causes—*C*, *D*, etc.—with which *A* combines to make a causally sufficient condition, are posited." Either way, the explanation in the *Ordinatio* does not require that a *per se* efficient cause is a causally necessary condition of the effect, whereas—taken at face value—the wording of *Expositio in libros Physicorum* does:

> ...a cause *per se* is one which is such that when it is posited and everything else is taken away, the effect could be produced; and when it is taken away and everything else remains it would not be produced. This is the way the heat of a fire is the cause *per se* in heat-production. For if heat existed without fire, it could produce heat; but if fire existed without heat, it could not produce heat...[86]

This passage should not be taken to reflect Ockham's considered opinion, however. For God could act alone without heat to produce heat, so that His volition is an alternative sufficient condition. Ockham adds the second conjunct—"and when it is taken away and everything else remains, it would not

86. II, t.33, fol.21va, (OPh IV).

be produced''—in a hasty effort to draw a contrast between the causal role of fire, on the one hand, and its heat on the other. A more accurate statement of his view would be that heat is a necessary ingredient in one alternative sufficient condition that is a cause *per se* of heat production, whereas fire is a necessary ingredient in none.

Ockham thinks that a significant amount of confusion was introduced into discussions of *per se* and *per accidens* causation, by misconstruals of Aristotle's remarks in the *Physics*, Book II, chapter 3, text 33. The Philosopher says there that a builder builds *per se*, while a white thing builds *per accidens*; and a statue-maker is the cause of a statue *per se*, while Polycletus is its cause *per accidens*. If the builder is white and Polycletus is the statue-maker, then, Aristotle seems to be implying that the same things are both *per se* and *per accidens* efficient causes of the same effects—which is impossible. The mistake, here, Ockham notes, has more to do with logic than with physics. What Aristotle intends is that the *propositions* 'A builder builds' and 'A statue-maker makes a statue' are true *per se* in the sense that the predicate occurs in the definition of the subject (apparently leaving aside worries about the fact that it is contingent that any builder or any statue-maker exists), while the *propositions* 'A white thing builds' and 'Polycletus makes a statue' are true *per accidens* because the predicate does not occur in the definition of the subject.[87]

(2.4) *Immediate (Proximate) versus Mediate (Remote) Efficient Causes.* The contrast between immediate and mediate, proximate and remote causes goes with the picture of a causal chain. At one end lies the effect. The link closest to the effect is the proximate cause, which acts without intermediary to produce the effect. The next link is a remote cause, which acts ''at a remove'' from the effect and produces it by means of producing the proximate cause. The next link is a still more remote or mediate cause, and so on. Given (A), Ockham could have stated the distinction between immediate and mediate causes as follows:

87. *Ord.* I, d.2, q.10, (OTh II, 343–47); *Expos. Physicorum* II, t.33, fol.21rb, (OPh IV).

(P) *A* is a mediate cause of *B*, if and only if *A*'s power is exercised to produce something else *C* (where *C* is not identical with *B*) and *C*'s power is exercised to produce or conserve *B*, or something else *D* whose power is thus exercised, etc.

while

(Q) *A* is an immediate cause of *B*, if and only if *A*'s power is exercised, not merely to produce or conserve something else *C* (where *C* is not identical with *B*), which acts in turn to produce or conserve *B*, but acts directly to produce or conserve *B*.

Thus, Abraham is merely a mediate or remote cause of Jacob, because Abraham's reproductive power is not exercised to beget Jacob directly, but only to beget Isaac who in turn exercises his own reproductive powers to beget Jacob. By contrast, Isaac is an immediate cause of Jacob's existence.

As usual, Ockham tries to capture the difference in terms of correlations, and has difficulty finding the right ones. In the above quoted passage from *Ordinatio* I, d.45, q.1 (see section (1.1) above), Ockham asserts that

(R) If (v) when *A*'s are posited *B*'s are posited, and (vi) when *A*'s are not posited *B*'s are not posited, than *A*'s are immediate causes of *B*'s.

It is enough if *A*'s are causally necessary and causally sufficient for *B's*. Ockham's example there, of fire's being an immediate cause of heat in wood, does not really fit either condition, however. For, according to Ockham, given divine omnipotence, no created efficient cause is necessary for heat to be produced in wood; and no creature is causally sufficient, without divine concurrence, for such heat-production either. In *Reportatio* II, q.3–4, (OTh V, 61), Ockham seems to imply that

(S) *A*'s are immediate causes of *B*'s, if and only if (vii) when

> *A*'s are posited *B*'s can be posited and (viii) when *A*'s not posited *B*'s cannot be posited.

When fire, or the heat in fire, is posited, the effect can posited, if the other partial causes needed for its production present. Thus, Ockham assures us that "even if many pa causes concur in the production of an effect, each of them i immediate cause" and hence that God is an immediate tial cause of any creature.[88] Even this formulation is care however, for it requires an immediate cause to be a cau necessary condition of its effect, whereas Ockham's consid opinion is that it is enough if the cause is a necessary ingred in one of the alternative conditions sufficient for that ef Thus, the sun is an immediate partial cause of the productio a human being for this reason, even though God could proc a human being acting alone.[89]

## 3. IMMEDIATE CAUSES AND OCKHAM'S CRITIQUE OF SCOTUS

From a medieval point of view, Ockham's most controve thesis about efficient causality was not a putative reduction to observed correlations, but his insistence that all genuine cient causes are immediate causes. Thus, he writes that

> every cause properly speaking is an immediate cause. For that which such that, whether or not it is posited, the effect follows in the natu of things and when it is posited and everything else is left aside, the fect does not follow, cannot be shown to be a cause...[90]

And again,

> a remote cause is not a cause because the effect does not attend presence. Otherwise Adam could be said to be a cause of me—which

88. *Ibid.*, (OTh V, 61).
89. *Ord.* I, d.45, q.1, (OTh IV, 665).
90. *Ibid.*, (OTh IV, 665–66).

not true, since what is not a being cannot be a cause of being...[91]

The last argument rests on the traditional premiss that

(T) What is not a being cannot be the cause of being,

where 'being' is taken to be in the present tense. What does not exist (present tense), is (present tense) nothing. But nothing cannot be the cause of something. Hence, what exists only at a time before the effect exists, cannot be its cause. Neither can a merely past action of something produce something in existence now. Only what exists at present and exercises its power (*virtus*) at present can produce or conserve anything at present. If all human beings descend from Adam, then Adam is at least a remote cause of my existing; but he is not a cause of me, properly speaking, since he ceased to exist long before my conception. Leaving aside the oft rehearsed deficiencies in the correlations mentioned in the first passage, Ockham's reasoning is clear: when Adam existed, I did not; I came into existence and continue when Adam is no longer. Hence, even if he is a remote cause of men, his existence and acts are irrelevant to my existence and hence are not causes of it, properly speaking. And in general, a cause of a cause will be a cause of the effect, properly speaking, only if the cause of the cause is likewise an immediate cause of the effect.[92]

Aquinas and Scotus would have agreed with Ockham, where some causal chains are concerned—viz., those which Scotus called "accidentally ordered causes" and which are paradigmatically represented by the causal chain of fathers and sons. But they insisted that with other causal chains—viz., those which Scotus labels "essentially ordered"—an efficient cause may be both remote and genuine. In each of his attempts to prove the existence of a first efficient cause, Scotus lays out criteria for distinguishing the two sorts of series. Ockham twice criticizes them and insists that all of the efficient causes of a

91. *Rep.* II, q.3–4, (OTh V, 61).
92. *Ord.* I, d.45, q.1, (OTh IV, 666–67).

given effect are either remote and not genuine or else genuine but immediate.

While the distinctions between total and partial, universal and particular, *per se* and *per accidens*, and immediate versus mediate causes are all drawn explicitly on the basis of how causes are related to their effects, Scotus contrasts essentially ordered and accidentally ordered causes in terms of differences in the ways the causes are related to one another. As Scotus sees it, the definitive differences are three:

(i) "The first difference is that (a) in essentially ordered causes, the second depends upon the first precisely in the act of causing. (b) In accidentally ordered causes this is not the case, although the second may depend upon the first for its existence or in some other way.

(ii) The second difference is that (a) in essentially ordered causes the causality is of another nature and order, inasmuch as the higher cause is more perfect, (b) which is not the case with accidentally ordered causes...

(iii) The third difference is "that (a) all essentially ordered causes are simultaneously required to cause the effect, for otherwise some causality essential to the effect would be wanting. (b) In accidentally ordered causes this simultaneity is not required."[93]

Scotus thinks that the second and third differences follow from the first, and that (ia), (iia), and (iiia) are individually necessary and jointly sufficient for an order of causes to count as essentially ordered, while (ib), (iib), and (iiib), for an accidentally ordered series. Scotus's use of the distinction in his argument also presupposes that the distinction is both exclusive and exhaustive. Ockham, on the other hand, thinks that Scotus's distinction is not well drawn where any of the three differences is concerned.

93. *De primo principio*, sec.3.1, (Wolter ed., 46–47).

(3.1) *The First Difference.* In the *De primo principio*, Scotus distinguished two essential orders—the order of eminence and the order of dependence. He explains that *B* depends on *A* if it is impossible that *B* should exist and *A* not exist, but not vice versa.[7] Even in cases in which a cause acts necessarily in such a way that it could not exist without its effect, the former is prior to the latter because the latter *needs* the former to exist but not the other way around.[94] According to the first difference, however, in an essentially ordered series, the posterior cause ($y$) depends on the prior ($x$) *in causing* and not for its existence or any other property. This dependence is most easily illustrated by the relation of material to efficient causes. An efficient cause cannot naturally act to produce a substantial or accidental form, unless there is a subject—prime matter or a substance—which is naturally apt to receive such a form. Hence, the efficient cause cannot act without the matter's acting, but the matter can exercise its causality—which consists merely in its existing with a natural aptitude to receive the form—even if the efficient cause does not act. Scotus concludes that the matter is prior so far as independence in causing is concerned.[95]

Ockham does not understand what such a dependence amounts to in a series of efficient causes, however. He can think of three interpretations—(a) the posterior or secondary cause cannot cause without the prior cause; (b) the posterior depends on the prior for its existence; and (c) the posterior receives some act or influence from the first[96]—all of which seem to be excluded by Scotus's own examples of essentially ordered series. For Scotus maintains that the sun and a man are essentially ordered in the production of a man; the intellect and the object, in the production of an act of understanding; and the father and mother in the production of offspring. (Note that Scotus holds the then controversial position that the intellect and the mother are not merely passive material causes of the mental act and offspring, respectively, but active efficient causes.) While alter-

94. Sec.1.8, 5.
95. Sec.1.11, 7 and sec.2.32, 27.
96. *Ord.* I, d.2, q.10, (OTh II, 347); d.32, q.1, (OTh IV, 632).

native (b) is satisfied by the sun and a man, it is not met by the other two examples. In any event, (b) cannot be what essential dependence between causes amounts to, because, as even Ockham recognizes,[97] this is a principal point of contrast between essentially ordered and accidentally ordered series: that in the latter the posterior may depend on the prior for its existence but in the former the dependence is a dependence in causing. Further, Ockham reiterates the point that if $x$ is merely the cause of the existence of $y$ which is an efficient cause of the existence of $z$, then $x$ is only a remote and hence not an efficient cause of $z$, properly speaking. For since it would be possible for $x$ not to exist and $y$ to be conserved in existence by someting else and $y$ to produce $z$, $x$ is not necessary for the production of $z$.[98]

Likewise, (c) will be satisfied only if the secondary or posterior cause receives locomotion, or motion to a substantial or accidental form from the prior cause. But "frequently the secondary cause causes apart from any such reception. This is clear in the case of heat that causes another heat but does not receive locomotion or any form from the sky..."[99] Likewise, Scotus himself admits that "the object and the intellect are two partial causes of an act of understanding," even though "each acts by its own power."[100]

By contrast, it looks as if all three examples do satisfy condition (a): Abraham could not produce Isaac if the sun did not traverse its orbit. Nor could he produce an intuitive cognition of Abraham without the intellect's action. Neither could Sarah produce Isaac all by herself. Ockham complains, however, that the dependence relation is not asymmetrical:

> ...For in many cases, just as the secondary cause cannot cause without the first, so neither [can the first cause act without the secondary cause]. Therefore in that case the secondary cause would no more de-

97. *Ibid.*, d.2, q.10, (OTh II, 347); *Quaest. Physicorum*, q.132, (OPh VI).

98. *Ord.* I, d.2, q.10, (OTh II, 347–48); cf. *Quaest. Physicorum*, q.132, (OPh VI).

99. *Ibid.*, q.132, (OPh VI); cf. *Ord.* I, d.2, q.10, (OTh II, 348).

100. *Ord.* I, d.2, q.10, (OTh II, 348); *Quaest. Physicorum*, q.132, (OPh VI).

> pend on the first in causing, than the other way around. The premiss is clear because, just as in things here below many particular agents cannot cause their effects without the sun, so the sun cannot issue in many effects without the secondary causes.[101]

The sun's moving in its orbit will not count as an act of producing Isaac without Abraham's concurrent action any more than anything Abraham does will without the sun's traversing its path. Nor can the intellect produce an intuitive cognition of Abraham without Abraham's action. Likewise, Abraham could not beget Isaac without Sarah's cooperation. Yet, if the putative dependence relation in these cases is not captured by (a)–(c), Ockham does not understand what it means to say that one depends on the other.

Ockham's objections have some force so long as Scotus's formulation of the distinction between essentially ordered and accidentally ordered series in the *Ordinatio* I, d.2, p.1, q.1–2 and *De primo principio* is all that is taken into account. But Ockham refers to other passages in which Scotus himself seems to provide the counterexamples to that way of marking the division. And in these texts, Scotus shows himself not to be oblivious to these difficulties. Rather he attempts to accommodate the above causes by drawing some further distinctions. First, among concurrent causes of the same effect, he contrasts those which act as equals *(ex aequo)* – e.g., two things dragging the same object – and those that are essentially ordered. In the former case, two causes are needed because the dragging-power of one is limited or because one or both fail to act to the limit of their power, so that if the exercised dragging-power of one were increased, it could drag the object all by itself.[102] Where essentially ordered causes are concerned, Scotus concedes that it is not always the case that the posterior receives some influence from the prior cause:

> ...Some concur, not as equals, but as having an essential order. This happens in two ways: (a) either in such a way that the superior cause

101. *Ord.* I, d.2, q.10, (OTh II, 347).
102. Cf. *Ord.* I, d.3, p.3, q.2, n.497, (Vaticana III, 294).

> moves the inferior, so that the inferior acts only because it is moved by the superior. Sometimes an inferior cause of this sort gets the power (*virtus*) or form by which it moves from the superior cause; sometimes not, but it gets its form from something else and gets only its actual motion to produce the effect from the superior cause. (b) Sometimes, however, the superior cause does not move the inferior cause or give it the power by which it moves, but the superior cause has of itself a more perfect power of acting, and the inferior cause has a less perfect power of acting. An example of the first sort is the motive power that is in the hand, a stick, and a ball. An example of the second: if the mother is supposed to have active power in the generation of offspring, she and the active power act as two partial causes. But they are ordered, because the one is more perfect than the other. The more imperfect does not receive its causality from the more perfect cause, however, nor does the whole exist in the more perfect cause. Rather the less perfect cause adds something, to the extent that the effect can be more perfect when it is from the perfect and the less perfect cause than can an effect from the more perfect cause alone.[103]

Here Scotus suggests that for $x$ and $y$ to be essentially ordered, it is not necessary that $y$ acquire its power to cause or is moved to cause by $x$; rather it is enough if $x$ and $y$ are such that either (i) $y$ acquires its power to cause from $x$, or (ii) $y$ is moved to cause by $x$; or (iii) $x$ and $y$ are partial causes of the same effect in such a way that while $x$ could not produce their common effect acting alone, $x$ is a more perfect cause than $y$. Although the father and mother procreating do not satisfy condition (i) or condition (ii), they do meet condition (iii). Likewise, the intellect and object

> act together insofar as they have an essential order. But not the first way, because the intellect does not give to the object or species its aspect of causality. For the object is not apt—whether in itself or in its species—to make an act of understanding through anything that it receives from the intellect; rather it is apt, by its nature, to do so. Nor does the intellect receive its causality from the object or the species of object, as was proved by the first argument against the second opinion. Therefore, they are essentially ordered causes in the last way—viz., that one is absolutely more perfect than the other, but in such a way that each is perfect in its own proper causality and does not depend on the other.[104]

103. *Ibid.*, n.496, (Vaticana III, 293–94); cf. *Quodl.*, q.15, n.10, (Alluntis and Wolter ed., 353).

104. *Ord.* I, d.3, p.3, q.2, n.498, (Vaticana III, 294–95).

Scotus suggests two criteria by which to determine in such cases which of the causes is the prior or primary cause. First, in general,

> ...when one of the ordered causes is indeterminate with respect to many effects and almost unlimited, but the other according to the limit of its power is determinate with respect to a certain effect, the one that is more unlimited and more universal seems to be the more principal cause...[105]

Thus, when the sun acts together with particular causes of generation the sun is the more principal cause because it is the more universal cause. Likewise, the intellect is a more principal cause than the object, since "the intellect has almost unlimited and determinate power with respect to every act of understanding. But the objects naturally known by us have determinate power with respect to the determinate acts of understanding that are of it."[106] Apparently, on medieval theories of reproduction, the father is supposed to have a wider range of effects than the mother. The second criterion is that "the more principal cause is the one which—when it acts—the other causē acts together with it and not vice versa."[107] By this criterion, the intellect is a prior cause and the species left by an object a posterior cause. For if the understanding depended more principally on the species, we would understand whenever a species is present, whereas we understand when we will. Thus, what makes these problematic examples cases of essential ordering and not *ex aequo* causation is that one cause is more universal and more perfect.

Ockham admits that—although in these examples neither the putative prior cause can produce a given particular effect without the posterior nor the posterior without the prior—the prior can produce another effect of the same species without the posterior but not vice versa. For example,

105. *Ibid.*, q.3, n.559, (Vaticana III, 333).
106. *Ibid.*
107. *Ibid.*, n.560, (Vaticana III, 333).

> although Socrates could not naturally produce a man without the sun, nevertheless, the sun can naturally produce a man without Socrates, since [it can do so] by means of Plato. Consequently, the superior cause causes more independently than the inferior cause does. But to cause more independently pertains to perfection. Therefore, the superior cause causes more perfectly insofar as it causes more independently than the inferior cause does.[108]

But he insists that when the sun and a man act together to produce a man, "they are neither essentially ordered nor accidentally ordered causes"; "rather they are disparate partial causes of one effect." Likewise, "the object and the intellect are not essentially ordered because neither depends on the other, and not accidentally ordered because one cannot naturally cause when the other is left aside."[109] In Ockham's opinion, Scotus should not further confuse his contrast between essentially ordered and accidentally ordered causes, but should simply recognize these as cases in which there are disparate partial causes of a single effect. On the other hand, if the posterior did receive locomotion or a form from the prior, and given this influx the posterior could act without the prior, the prior would be only a remote cause and so not a cause of the effect properly speaking.

(3.2) *The Second Difference.* Scotus says that essentially ordered causes are such that the superior cause is more perfect than and therefore of a different order from the lower cause. Ockham asks by what criterion Scotus orders causes as higher and lower: whether it is with respect to perfection, or with respect to the relative scope of its power? Ockham says, "if the first way, the question of whether the causes are of different orders is begged, since the more perfect is the more perfect."[110] On the other hand, Ockham thinks the alternative interpretation—that "every less limited cause is more perfect than a more limited cause"—is "absolutely false, since sometimes the more

108. *Quaest. Physicorum*, q.133, (OPh VI); cf. q.132, (OPh VI).

109. *Ibid.*, q.132, (OPh VI).

110. *Ord.* I, d.2, q.10, (OTh II, 349); *Quaest. Physicorum*, q.133, (OPh VI).

limited cause is absolutely more imperfect and sometimes more perfect."[111] For example, the sun is a more universal and less limited cause, but its nature is less perfect than those of the living particular causes such as Socrates or Brownie the donkey with which it concurs. Again, if a human intellect were to understand an angel, the intellect would be the more universal cause of the act of understanding but the less perfect in nature. Again, heat is the less limited but less perfect when it acts together with the vegetative soul to produce nutrition in animals. On the other hand, the sky is the less limited and more perfect cause, when it acts together with the elements to produce various effects, and so is the will when it acts together with sensible and/or intelligible things to produce volitions.[112]

Ockham's critique of the second difference assumes that higher and lower causes are to be compared to see which has the more perfect *nature*. According to Scotus's intention, however, "the comparison is of two causes with one another insofar as they are causes of the same thing."[113] At the outset of *De primo principio*, he observes that the two essential orders—of eminence or perfection, and of dependence—are "equivocal"[114] and warns us to "keep in mind, however, that it is one thing for the causes to be essentially ordered in causing with respect to causation, and another for those which are causes to be essentially ordered..."[115] He maintains further that "if one thing is more eminent than another, it does not follow that the latter is essentially dependent on the other" and "it is not the case that every dependent thing is thereby inferior to that on which it depends."[116] For instance, a composite depends on its matter, but is of a more perfect nature than its matter.[117] Thus, Scotus did not believe any more than Ockham

111. *Ord.* I, d.2, q.10, (OTh II, 349); *Quaest. Physicorum*, q.133, (OPh VI).
112. *Ord.* I, d.2, q.10, (OTh II, 349–350).
113. *De primo principio*, sec.3.10, 47.
114. Sec.1.6, 5.
115. Sec.2.43, 43.
116. Theses 13 and 14, sec.2.41, 31; sec.2.43, 43.
117. Sec.2.44, 43.

did that in an essentially ordered series of causes, the prior was the more perfect in nature.

On the contrary, when it comes to a series in which the one is neither moved by nor receives an influence from the other, Scotus ranks the more universal as the prior cause and thinks that the more universal is more perfect, not necessarily in nature, but in causing. And even Ockham admits "the higher cause is the more perfect cause" in that

> the secondary cause cannot [produce] an effect of its species without the concurrence of a superior cause of that effect, but conversely the primary cause can. For although Socrates cannot naturally produce a man without the sun, nevertheless, the sun can naturally produce a man without Socrates, since [it can do so] by means of Plato. Consequently, the higher cause is more independent than the lower. But to cause independently pertains to perfection. Consequently, the higher cause causes more perfectly, insofar as it is more independent that the lower cause.[118]

If Scotus analyzes both 'prior' or 'higher' and 'more perfect in causing' in terms of greater universality, will not his second condition—that the higher cause is more perfect—become the analytic truth that the more universal is the more universal? If so, Ockham will have the same reason to object to this interpretation as he did to his first construal—that the more perfect in nature is more perfect in nature—that the question of whether the causes are of different orders is thereby begged. It is doubtful whether Scotus would have been concerned by this objection, however. For he would not have been claiming to demonstrate that the higher cause is of a different order, when his stipulated use of 'higher' makes this analytic. Rather Scotus would have seen himself only as making explicit what was implicit in his understanding of 'higher'. Scotus even says that

> this [second difference] follows from the first. For no cause essentially depends in causing on [another] cause of the same kind, since to produce anything, one cause of a given kind suffices.[119]

118. *Quaest. Physicorum*, q.133, (OPh VI).
119. *De primo principio*, sec.3.11, 47.

(3.3) *The Third Difference.* Scotus thinks that

> a third difference follows: that all of the essentially ordered causes are simultaneously necessary to cause the effect; otherwise some causality essential to the effect would be wanting. Simultaneous action is not required in accidentally ordered causes.[120]

Ockham responds,

> If he understands [by this] that among essentially ordered causes one can never act without the other, this is not true, both because according to him and according to truth, some animals produced by propagation by the concurrence of a heavenly body and a particular agent, can be produced by putrefaction without concurrence of the above mentioned particular agent. Therefore, the universal cause acts there without the particular cause.[121]

As a literal rendering of Scotus's claim, Ockham's construal is not unreasonable; but it is doubtful whether it accords with Scotus's intentions. For Scotus, too, subscribes to the medieval view that the sun can produce a worm in either of two ways: by acting together with a parent worm or by acting together with decaying materials in putrefaction.[122] Probably, Scotus's thought was this: if $x$ and $y$ are essentially ordered in the production of $z$ *on this occasion*, the causal efficacy $x$ is exercising on this occasion would not suffice by itself to produce $z$. Thus, if God acts as a partial cause together with a creature to produce a creature, He is not acting to the limit of His power. So even though God could produce the creature acting alone, the causality He exercised on this occasion would not suffice for the production of $z$. If, on the other hand, He had decided to act alone, He would not have been ordered to a secondary cause at all.

(3.4) *Summary.* Ockham's critique of Scotus's distinction between essentially ordered and accidentally ordered causes exhibits an atypical failure to comprehend the latter's reasoning.

120. *Ibid.*; *Ord.* I, d.2, q.10, (OTh II, 339).
121. *Ibid.*, (OTh II, 350).
122. *Ord.* I, d.2, q.1–4, n.327–338, (Vaticana II, 322–28).

Having ranked causes as higher and lower by reference to their universality or perfection in causality, Scotus concludes that the higher is of a different order from the lower. And where $x$ and $y$ are essentially ordered in the production of $z$, the causality exercised by $x$ on this occasion does not suffice for the production of $z$, so that the activity of $y$ is superfluous. (This is what we would expect Scotus to say given his apparent stance against over-determination.) So Ockham's objections to the second and third differences reflect outright misunderstandings. In trying to show how his examples of essentially ordered causes qualify as such, Scotus converts (ia) into a disjunction—either the posterior cause depends on the prior in causing, or while posterior and prior causes act independently, the prior is more universal than the posterior. If this *ad hoc* move does justify Scotus in extending the label "essentially ordered" to these series—of the sun and a man producing a man, the intellect and the object producing an act of thought, and a father and mother in producing a child—it does nothing to show that an efficient cause can be both remote and genuine. For the difference between these cases and cases of *ex aequo* causation is just that in the latter the causes are of the same kind and in the former they are of different kinds. In both, each cause acts independently, and Ockham sees nothing in the difference of kind that forces us to deny that each cause acts immediately. He, therefore, finds nothing in Scotus's distinction that would persuade him to alter his conclusion that every genuine efficient cause is immediate.

## 4. WAS OCKHAM A SCEPTIC ABOUT EFFICIENT CAUSALITY?

Many commentators have thought that Ockham's remarks in *Reportatio* II, q.3–4 show him to be a sceptic about our knowledge of particular causal connections.[123] Recall his con-

123. Crombie, *Medieval and Early Modern Science*, vol.2, 29, 32–33; Grant, *Physical Science in the Middle Ages*, chapter 3, 30.

tention that

> It follows from this that it cannot be *demonstrated* that any effect is produced by a secondary cause. For even though when fire is close to combustible material, combustion always follows, this fact is, nevertheless, consistent with fire's not being the cause of it. For God could have ordained the whenever fire is present to a patient close by, the sun would cause combustion [in that patient]; just as He ordained with the church that when certain words are spoken, grace is produced in the soul. Thus, there is no effect through which it can be proved that anyone is a human being, especially through no effect that is clear to us. For an angel in a body can produce everything that we see in a human being—e.g., eating, drinking, and the like. This is clear from the case of the angel in [the book of] Tobit. Therefore, it is not surprising if it is impossible to demonstrate that anything is a cause...[124]

Even if Ockham did not analyze the meaning of 'efficient causality' in terms of observed correlations, would he not concede the sceptical premiss that causal connections otherwise understood could not be known at all, let alone with certainty?

(4.1) This section of *Reportatio* II, q.3–4 does not show that he would. (a) First, there are Ockham's repeated claims that we do have knowledge of causal connections. In fact, what he raises in *Reportatio* II, q.3–4 as an objection to our being able to *demonstrate* that one creature is the cause of another, he rejects as an objection to our being able to *know* or *prove* that this is so—once in *Ordinatio* I, d.45, q.1 (quoted above) and again in *Reportatio* II, q.3–4 itself:

> Suppose you say that the presence of the sun and the first cause is necessary for the effect to be produced, but that one or the other is not for this reason the cause.
>
> On the contrary, that takes away every way of proving that one thing is the cause of another. For if you say that the heat in fire is the cause of heat in wood, I reply that it is not: for while the presence of fire is required, causality does not follow from this. Thus you no more prove that heat in fire is the cause of heat in water than that whiteness in the wall is the cause of whiteness in me, except because the presence of heat in water follows from the presence of heat in fire. And another

124. (OTh V, 72–73).

> whiteness does not follow the presence of whiteness. Therefore, etc.[125]

And, as noted above, the text of *Summulae Physicorum* make the same point, when it states that taken strictly,

> ...an efficient cause is that at whose real existence something else wholly distinct from the cause, has existence for the first time. For if that description is destroyed, every way of persuading or knowing that something is the efficient cause of another will perish. For because of this we see that when fire is brought close to wood, heat in the wood follows. And since there would be no heat in the wood unless the fire were close to the wood, we say that the fire is a cause of heat...[126]

Ockham regularly regards observed correlations as a criterion for identifying what is an efficient cause of what.

(b) Similarly, in *Reportatio* IV, q.9, Ockham argues that accidents are partial causes in the production and corruption of substances:

> ...For at the presence of these accidents many effects follow and are corrupted which are not produced or corrupted in the absence of these accidents. And it seems that this can be so only if accidents act to produce or corrupt those effects. Otherwise, every way of proving that one thing is the cause of another would perish, as was said elsewhere...[127]

Anticipating the objection that since substances never exist naturally devoid of the relevant accidents, we cannot be sure that the substance does not act alone to produce these effects Ockham concedes that "a man cannot be certain on this point," but insists that

> ...if this matter were informed by the form of fire and another by the form of water without any accidents there, then a man could *experience with certainty* whether substance could produce substance without accidents. And if so, accidents would not be supposed to be

125. (OTh V, 62).
126. II, c.3, 35, (OPh VI).
127. (OTh VII, 169).

> partial causes of that production. If not, then they should be supposed to be partial causes. Therefore, man cannot be certain on this point, but the conclusion remains, as it were, neutral.[128]

Thus, while we lack experience of the relevant correlations in this case, Ockham seems adamant that experience that when *A*'s are posited, *B*'s are posited and when *A*'s are not posited—no matter what else is posited—*B*'s are not posited, would provide us with certainty that *A*'s cause *B*'s; and experience that *B*'s may be posited when *C*'s are posited, whether or not *A*'s are posited, certainty that *A*'s do *not* act together with *C*'s as partial causes of *B*'s.

(c) In any event, a careful reading of *Reportatio* II, q.3–4, (OTh V, 72) will show that Ockham does not say there that we cannot *know* or be certain that fire (or the heat in fire) causes combustion.[129] He merely says that we cannot *demonstrate* it. His reason is straightforward: he thinks it is logically possible that God should have brought it about that while *A*'s are correlated with *B*'s, C's cause *B*'s—presumably by His giving the power (*virtus*) to produce *B*'s to *C*'s while systematically obstructing any power in *A*'s for producing *B*'s. It follows that no proposition of the form '*A*'s cause *B* 's' (where *A*'s and *B* 's

128. (OTh VII, 169–170).

129. That we cannot "prove" that the effects we observe in other human bodies are not produced by an angel rather than a man, does not have so much to do with causality as with the fact that we are naturally unable to have intuitive cognitions of other human souls or of angels. Ockham's argument here is a fortiori: since we cannot even prove that the movements of human bodies are not caused by angels, a fortiori we cannot demonstrate that God has not made the sun the cause properly speaking and the fire the cause *sine qua non* of combustion.

In *Reportatio* IV, q.2, (OTh VII, 28) Ockham does say that "what depends on the divine will that causes and acts contingently and freely can neither be *proved* nor *disproved*, whether by natural reason or the authority of the Bible. For given that the cause acts freely and contingently, for this reason, the effect does not necessarily follow." But here 'proof' seems to have the sense of 'demonstration': they cannot be proved because they are contingent, not necessary.

are creatures) is necessary,[130] whereas both the premisses the conclusions of demonstrations must be necessary. As C ham infers at the end of the question, "God is a free caus relation to any effect; therefore, He cannot be a means demonstrating any effect."[131]

Further, when Ockham is outlining his views on demons tion in the *Ordinatio* and the *Summa logicae*, he insists that can have *evident knowledge* (in the broad sense of a proposit that can be evidently inferred from propositions evide known in the strict sense) of causal claims on the basis of periences, and contends that we use them as premisses in in ring the indemonstrable first principles of demonstration.

> ...For example, suppose that 'Every herb of this species strengther someone with a fever' is a first principle [of demonstration]. This pro osition cannot be proved syllogistically from any better known pro ositions. Rather knowledge of it is derived from intuitive cognitior perhaps of many [instances]. For since he saw that after such an herb eaten, health follows in the person with the fever, and since he r moved all other causes of the person's health, he had *evident* knowled that this herb was the cause of health, and then had experience regar ing the singular [proposition]. But it is known to him that all i dividuals of the same species have the same kind of effect in an equall disposed patient. Therefore, he derives evident knowledge of the prir ciple that every such herb strengthens someone with a fever.[132]

Ockham's thought seems to be that an intuitive cognition of herb and of health in the person who was feverish would i by themselves, produce evident knowledge of the causal cl 'This herb strengthened this person who was feverish'; combined with a backlog of correlations which exclude ot causal hypotheses, it will. And the conjunction of the la singular proposition with the (apparently) self-evident te 'All individuals of the same species produce the same kinc effect in an equally disposed patient' entails the unive generalization 'Every herb of this species strengthens some

130. See sections (1.3.2) above and (4.2) below.
131. *Rep.* II, q.3–4, (OTh V, 79).
132. *Ord.*, Prologue, q.2, (OTh I, 87).

with a fever'. Ockham asks us to assume that the latter is a first principle of demonstration for the sake of simplicity. Instead, the *de possibili* proposition 'It is possible that every herb of this species strengthens someone with a fever' or 'Every herb of this species can strengthen someone with a fever', which can be immediately inferred from it, is. In the *Summa logicae*, Ockham explictly cautions that

> often evident knowledge of a contingent singular proposition is not possible apart from the apprehension of many singulars. Thus, it is not easy to know that this herb heals such a sick person, nor that this syrup heals him, etc. For experience does not easily grasp this, because specifically the same effect can have many specifically different causes.[133]

Many experiences may be required to establish the relevant correlation between this sort of herb or syrup and health in a patient. But given such correlations and the relevant intuitive cognitions, we can have evident knowledge of singular causal propositions and further derive evident knowledge of the corresponding universal assertoric and universal *de possibili* propositions, the latter of which enter into demonstrations as indemonstrable first principles.[134] Thus, when put together with his remarks about demonstration, Ockham's admission that we cannot demonstrate causal claims of the form 'A's cause B's' has no tendency to show that he was sceptical about our ability to know them with certainty.

(4.2) Another passage from *Reportatio* II, q.16, where Ockham is discussing the intuitive cognition of angels, appears to lend support to a charge of scepticism about our knowledge of particular causal connections. He writes,

> Notice also that someone who sees a cognition of a particular intuitively, does not see that particular intuitively insofar as it is a term of the cognition. For even if an angel saw a cognition of some particular intuitively, and, let us suppose, he also saw that particular intuitively,

133. III–2, c.10, (OPh I, 523–24).
134. *Ibid.*, c.25, (OPh I, 574–75).

> nevertheless, he would not see that it was of this particular. For if there were two particulars equally close to the intellect, each of which the [second] angel sees, he would no more know the cognition [of the first angel] to be from this object than from that one—especially if the [particulars] are similar. And even if there were only one particular close to the intellect, still [the second angel] could not have evident knowledge that this cognition is of this particular and has it as a partial efficient cause since that cognition can exist by God alone.
>
> Example: if there are two fires and smoke appears to be caused, I no more know that the smoke is caused by this fire than by that one, since it can equally well be caused by either one. Even if there is only one fire and smoke appears, it cannot be evidently known whether it is caused by this fire, since it can be caused by God alone. This is the way it is in the case at hand. Thus, to have evident knowledge that this thought which I see intuitively is from that particular, I must know that nothing else similar to it is as close to the angel in which this intuitive cognition exists, and that it does not exist by God alone as its total cause. And if one of these conditions fails, then I do not have evident knowledge that the intuitive cognition is caused by this particular. But I can know this only through many arguments, or at least through one argument. Therefore, even though I may have an intuitive cognition of a thought of a particular, nevertheless, I do not have an intuitive cognition of the particular that is its object, but either I do not know it or I know it only by reasoning.[135]

Suppose that the Archangel Michael has an intuitive cognition of a particular white patch *W*, and that the Archangel Gabriel has both an intuitive cognition of Michael's intuitive cognition and an intuitive cognition of *W*. In the natural course of things, Gabriel will be caused to make an evident judgment that the intuitive cognition exists and that *W* exists. Will he also thereby acquire evident knowledge that Michael's intuitive cognition is an intuitive cognition of *W*? Ockham thinks not; he considers two cases. (a) The first is one in which two or more maximally similar white patches (*W*, *W'*, etc.) are all close enough to Michael to be a natural cause of his intuitive cognition. According to Ockham's teaching in *Reportatio* II, q.12–13, (OTh V, 287–89) and *Quodlibeta* I, q.13, (OTh IX, 74), where an intuitive cognition is equally similar to many particulars, especially many that are close enough to be a natural cause of cognition, the cognition is *of* the particular that *in fact* caused it. And if

135. (OTh V, 378–79).

God acted alone to cause it, then it is *of* the only one that is apt to cause it (see Part One, chapter 4). Thus, Ockham seems to have held that if Michael's intuitive cognition is an intuitive cognition of *W*, then it is logically impossible that Michael's intuitive cognition be caused by any other white patch (*W'*, *W''*, etc.). But Ockham denies that we can have intuitive cognitions of things as causally related, or that intuitive cognitions of what are in fact cause and effect will produce evident knowledge of their causal connection. His point in the case at hand is, therefore, that Gabriel's intuitive cognitions of Michael's intuitive cognition and of *W* will not provide him with evident knowledge that Michael's intuitive cognition is an intuitive cognition of *W*, because it will not furnish evident knowledge that Michael's intuitive cognition was caused by *W* rather than *W'*, *W''*, etc.; any more than intuitive cognitions of smoke and of several fires, among them the one that in fact caused the smoke, suffice by themselves to produce evident knowledge that this particular fire caused the smoke. This concession has no bearing on the question of whether we can have evident knowledge that *A*'s cause *B*'s on the basis of correlations, however. The problem is rather that even given the knowledge that fires cause smoke, together with intuitive cognitions of smoke and several fires, we may not be able to tell which of the fires is the real cause of the smoke.

(b) In the second case, *W* is the only white patch nearby, and Gabriel has both an intuitive cognition of Michael's intuitive cognition of *W* and an intuitive cognition of *W*. Still these do not suffice to give Gabriel evident knowledge that Michael's intuitive cognition is of *W* because Michael's intuitive cognition could be caused by God acting alone. Similarly, even where there is only one nearby fire, intuitive cognitions of the fire and the smoke will not suffice, by themselves, to produce evident knowledge that this fire caused the smoke, because the smoke can be caused by God alone. To have evident knowledge that Michael's intuitive cognition was caused by *W* or that this smoke was caused by this fire, Ockham suggests, it is necessary to exclude not only the possibility that the effect was naturally produced by some other white patch or by some other fire—but also the possibility that it was produced by God acting alone. Given our lack of firsthand information about what God wills in the form of intuitive cognitions regarding divine volitions, is that not tantamount to scepticism about

our knowledge of causal connections between creatures?

A negative answer is defensible here. After all, even the above quoted passage from *Reportatio* II, q.16 does not say that I cannot know that this *A* caused this *B*, but rather that "I can know this only through many arguments, or at least through one argument" and "either I do not know it or I know it only by reasoning."[136] The sort of argument Ockham has in mind, is clear from the parallel passage in *Quodlibeta* I, q.6. There he considers a case in which an angel (call him Michael) has an intuitive cognition of a particular white patch (*W*), where no other white patch is close enough by to cause Michael's cognition, while another angel (Gabriel) has an intuitive cognition of Michael's intuitive cognition of *W* and has had intuitive cognitions of white patches in the past but does not have an intuitive cognition of *W* now. In such a case, Gabriel

> can cognize the object through discursive reasoning, the way a cause is cognized through its effect. For just as someone who sees smoke without fire argues that such smoke is caused by fire, since on other occasions he sees that smoke is caused at the presence of fire, and so he cognizes fire to be the cause through its effect; so one angel who sees such a cognition of an object in someone else cognizes that the cognition is caused by such an object, because on other occasions he sees that a similar cognition is caused in himself or another at the presence of the object.[137]

Common sense would tell us that someone who sees smoke for the first time and has had no previous experience of smoke and fires will not be in a position to conclude that the present smoke was caused by fire. Indeed, returning to the case of *Reportatio* II, q.16, (OTh V, 378–79), even if he sees both smoke and fire on this occasion, he will have no more reason to think that the fire caused the smoke than that anything else in the environs did. On the other hand, given a backlog of correlations between smoke and fire, he will be able to infer when he sees smoke, that it was caused by fire (the case of *Quodlibeta* I, q.6, and *Quaes-*

136. (OTh V, 379).
137. (OTh IX, 40); cf. *Quaest. variae*, q.6, a.1, (OTh VIII, 199).

*tiones variae*, q.6, a.1, (OTh VIII, 198)). And when he sees smoke and a single nearby fire (the case of *Reportatio* II, q.16, (OTh V, 378–79)), experienced correlations will enable him to determine that this fire caused this smoke.

The style of argument suggested by *Quodlibeta* I, q.6 and *Quaestiones variae*, q.6, a.1, (OTh VIII, 199) accords well with Ockham's pronouncements on this topic in the Prologue to the *Ordinatio* and the *Summa logicae* (see section (4.1) above). For given such experienced correlations between fire and smoke, these passages allow us to infer from the evident judgment that this fire is near to this smoke, to the evident judgment that this fire caused this smoke, and from the latter to 'Fires cause smoke' and the *de possibili* proposition 'All fires can cause smoke', which can serve as an indemonstrable first principle of demonstration.

Someone could charge that Ockham's remarks in the *Ordinatio*, the *Summa logicae*, and *Quodlibeta* I, q.6 are not consistent with what he says in *Reportatio* II, q.16, (OTh V, 378–79). For the reasoning in the former works does nothing to exclude the logical possibility that God acts alone to produce this smoke. This is all the more obvious in view of Ockham's explicit contention in *Reportatio* II, q.3–4, (OTh V, 72) and *Reportatio* IV, q.1 that God can act alone to produce a correlation between fire and smoke, just as well as He can act alone to produce a single instance of smoke.

It may be replied that Ockham does not really expect us to provide conclusive evidence that God did not act alone. For he remarks in *Reportatio* III, q.12 that "that at whose existence something else follows should be its cause unless it evidently appears"—whether from reason, experience, or authorities—"that causality should be denied of it."[138] Ockham thinks that such reasons never appear where natural phenomena are concerned; for he declares that there is no *sine qua non* causality among natural causes but only among voluntary agents.[139] Similarly, the *Summulae Physicorum* describes an efficient

138. (OTh VI, 397–98).
139. *Ibid.* IV, q.2, (OTh VII, 33).

cause "at whose real existence something else wholly distinct from that cause comes to exist for the first time," and observes that "if this description were destroyed, every way of being persuaded or of knowing that something is an efficient cause of something else would perish."[140] It concludes that "for this reason, it is clear that there are not causes *sine qua non*, properly speaking";[141] the case of which authority informs us are passed over apparently because Aristotle would not have entertained examples from sacramental theology.

Returning to the second example above, in which there is only one nearby white patch or fire, experience give us no cause to doubt that the white patch and the fire are causes of Michael's intuitive cognition the smoke, respectively. Further, while we know by revelation that—the correlation between the utterance of certain words and grace in the soul notwithstanding—it is God and not the utterances that produces grace in the soul, no revelations tell us that God regularly acts alone to produce intuitive cognitions on the occasion of white patches or smoke on the occasion of fires, and there has been no special revelation for these occasions.

Someone may object, however, that if neither experience nor revelation provides cause for doubt, reason does when it recognizes the logical possibility of solo divine action. Unless it is definitely excluded, we will not have logically conclusive evidence that *A*'s cause *B*'s and so will not have certain or evident knowledge that they do.[142]

At work here is an implicit standard for what counts as certain knowledge—viz., *x* has certain knowledge of *p*, only if (xiii) *p* is true, and (xiv) *x* has logically conclusive evidence that *p* is true—which was endorsed by Descartes and employed in various sceptical arguments. As noted in Part Three, chapter 14 above, the debate about whether certain knowledge is possible often hinges on whether to accept the standard formulated in

140. II, c.3, (OPh VI).

141. *Ibid.*

142. Gilson, *op. cit.*, chap.3, 77. Crombie, *op cit.*, vol.2, 29, 32–33. Grant, *op. cit.*, chap.3, 30.

(xiii) and (xiv) or to replace it with a different and "lower" one. And we have seen that Ockham seems to follow Duns Scotus in assuming that $x$ has certain knowledge of $p$, if and only if (xiii) $p$ is true and (xv) $x$ does not and/or cannot doubt $p$; there is no evidence that Ockham ever seriously entertained the Cartesian standard. If so, he could have consistently maintained that we know with certainty that $A$'s are efficient causes of $B$'s and know it on the basis of correlations, while admitting the logical possibility that $A$'s do not cause $B$'s.

Even if some other passage from the *Reportatio* could be found which contained an explicit denial of our ability to have certain and evident knowledge of causal connections on the basis of experienced correlations, that would not show that Ockham was a sceptic about our ability to know particular causal connections in this life. Such texts would have to be weighed against all of the passages in which Ockham says that correlations are our only way of knowing that $A$'s cause $B$'s, that correlations provide us with certainty and even evident knowledge (in the broad sense) regarding such facts, and that they form the basis of our derivation of indemonstrable first principles. Since some of the latter texts come from Ockham's *ex professo* treatments of scientific method in the *Summa logicae* and *Ordinatio*, it seems likely that the latter would outweigh the former.

## 5. OCKHAM AND A PRIORI KNOWLEDGE OF EFFICIENT CAUSALITY

Ockham's frequent appeal to observed correlations has led commentators to speculate that he would have denied us any *a priori* knowledge of causal connections.[143] This hypothesis is not sustained by the texts.

(5.1) *Particular Causal Connections*. Although Ockham thinks that in most cases our knowledge of particular causal connections such as 'Fire causes smoke' and 'Heat produces

143. See footnote 2.

heat' is based on experienced correlations, he does not maintai this as a general truth. Rather, in *Ordinatio* I, d.1, q.3, he allow that

> Otherwise, the fact that something is a cause of something else can be proved in the absence of such experience by means of an argument. This is the way it is proved that the will is an efficient cause of its act. For every free power that cannot be necessitated is an efficient cause of its act. Perhaps this argument alone convinces us that the will is an efficient cause of one of its acts. Other arguments, however—e.g., those founded on premisses such as 'What pertains to an inferior nature should not be denied to a superior nature without necessity'; 'A universal secondary cause concurs as a partial immediate cause in producing the effect of a particular cause; therefore, so does the absolutely first cause'; similarly, 'A body is not the total cause of something spiritual'—are more persuasive than demonstrative or necessarily convincing arguments...[144]

Ockham seems to take 'Every free power that cannot b necessitated is an efficient cause of one of its acts' to be self-evi dent and therefore the basis of an argument that convinces "i the absence of experience." The other arguments are "mor persuasive than demonstrative," presumably because the gen eral premises on which they rest are not self-evident.

(5.2) *General Causal Principles.* Further, Ockham's remark presuppose an *a priori* knowledge of certain general causa principles. For example, he invokes

(P1) All individuals of the same species have the same kind o effect in an equally disposed patient.

Ockham does follow Duns Scotus in maintaining that

> a heavy object is an efficient cause of its own downward motion. Similarly, heated water returns to coldness through itself; and the will moves itself causing a volition or hate in itself. Thus, not only what is specifically the same but what is numerically the same is the subject of an effect and an efficient cause of the same thing.[145]

144. (OTh I, 417).
145. *Expos. Physicorum* VII, t.2, fol.88ra. (OPh V).

and hence in rejecting

(P2) Everything that is in motion is moved by something else.

He even goes so far as to argue that Aristotle never meant to endorse it either. On the other hand, when Ockham attributes

(P3) Everything that is in motion is moved by something

to Aristotle, he makes no move to question its truth or restrict its application.[146] Again, as noted above, Ockham explicitly invokes the tag

(P4) Being cannot come from non-being,

in the course of proving that efficient causes are simultaneous with their effects.[147] When Scotus contends that

(P5) The totality of an infinite series of accidentally ordered causes requires an efficient cause of its existence,

Ockham does not reject it as Bertrand Russell did, comparing it with the supposition that since each human being has a mother, the whole human race has a mother[148] but argues only that the cause does not lie outside the series itself.[149] And his own proof for the existence of God turns on the equally *a priori* principle that

(P6) Whatever is really produced by something is really con-

146. *Ibid.*, t.1, fol.87vb, (OPh V).

147. *Rep.* II, q.3–4, (OTh V, 61); *Ord.* I, d.1, q.3, (OTh I, 415); *Quodl.* VI, q.6, (OTh IX, 606).

148. "A Debate on the Existence of God: Bertrand Russell and F. C. Copleston," in John Hick, *The Existence of God*, (New York, 1964), 167–191, 175.

149. See Part Five, chapter 21; *Quaest. Physicorum*, q.15, (OPh VI).

served by something as long as it really exists.[150]

## 6. SUMMARY

On the whole, Ockham's views about efficient causality are far less empirical than is normally supposed. According to his most fundamental understanding, $x$ is an efficient cause of $y$, if and only if the power (*virtus*) of $x$ is at least one of those whose exercise produces or conserves $y$. He does not, therefore, analyze 'efficient causality' in terms of the observed correlations discussed in section 2, but regards the latter as a reliable criterion by means of which we can obtain certain and evident knowledge of the singular proposition 'This heat produces heat', from which we in turn infer 'Every heat produces heat' and 'Every heat can produce heat', the last of which is an indemonstrable first principle of demonstration. Since particular causal connections such as 'This heat produces heat' or 'Every heat produces heat' are contingent, they cannot be demonstrated. And the necessary proposition 'Every heat can produce heat' cannot be demonstrated either because there is no more obvious necessary proposition from which it can be inferred. But this fact no more shows Ockham to be a sceptic regarding our knowledge of causal connections than would a denial that analytic propositions can be demonstrated. In at least one case—that of the will and its volition—Ockham thinks a causal connection can be proved by reason, in the absence of experience. And he makes use of some but not all of the general, *a priori* causal principles endorsed by his predecessors.

150. *Ibid.*, q.136, (OPh VI); *Ord.* I, d.2, q.10, (OTh II, 355); see Part Five, chapter 20 below.

# 19

# Motion: Its Ontological Status and Its Causes

In contrast to his Eleatic predecessors, Aristotle did not think that change or motion (*motus*) was merely an illusion or the subject matter for a "likely story." Rather he insisted that it was the central concern of natural philosophy (*Physics*, Book II). Thirteenth and fourteenth century Aristotelians took the correctness of this judgment for granted. For example, Ockham remarks that although it cannot be proved *a priori* that natural objects are capable of motion, "nevertheless, it is known from experience." And it is so obvious that "a natural philosopher does not have to dispute with someone who denies motion, any more than anyone has to dispute against those who deny principles that are known *per se*."[1] The further characterization of motion, on the other hand, could be the subject of a demonstration. But what is change or motion? To which, if any, of the ten categories does it belong? Is it a thing (*res*) distinct from the things that change, and if so, what sort of thing is it? The first half of this chapter will be devoted to these questions.

At the beginning of Book VII of the *Physics*, Aristotle announces that everything in motion must be moved by something. But some of his other assumptions make the causes of motion difficult to identify in certain instances. Thirteenth and fourteenth century philosophers found in these problem cases an occasion for some of their more creative theorizing. Ockham's contribution to this discussion, although by no means as extensive as that of John Buridan and Ockham's younger contemporaries of the Merton school, has seemed perhaps even

1. *Summulae Physicorum* III, c.1, 47, (OPh VI).

more startling to some historians; and it will be the focus of the second half of this chapter.

## 1. THE ONTOLOGICAL STATUS OF CHANGE AND MOTION

Medievals felt that before they could get on with the business of natural science, they had to determine what change or motion is and to fix its location in a category. When they looked to the texts of Aristotle for answers, they found him defining motion as "the act of a being in potentiality insofar as it is in potentiality." But they found this definition obscure on a number of counts:

(i) First, one may ask, potentiality for what? In his *Sufficientia*, Avicenna distinguished two interpretations: potentiality for a perfection that it lacks—e.g., the potentiality of a black body for whiteness—or the potentiality for coming to have the perfection—e.g., the black body's potentiality for becoming white. The latter potentiality can be partially actualized without the former's being actualized yet. And motion—e.g., becoming white—is the perfection of the latter potentiality, while the term to which the motion proceeds—e.g., the whiteness—is the perfection of the former. Many medievals thought that motion should be understood to be defined in terms of a potentiality for a perfection lacked, since it would be trivial to say that motion is the act of a potentiality for motion. Avicenna, on the other hand, seems to think that both potentialities are intended in Aristotle's definition.[2]

(ii) Again, Avicenna notes that some actualization of potentiality is sudden—e.g., the actualization of prime matter's potentiality for a different substantial form—and some continuous—e.g., locomotion. Yet, Avicenna cautions, one cannot, as a matter of definition, distinguish the former as change that happens *instantaneously*, from the latter that takes place over

2. See Anneliese Maier, *Zwischen Philosophie und Mechanik*, (Rome, 1958), chap.1, 15–17.

an interval of time. For it would be circular to define motion in terms of time, given that time itself is defined as the number of motion with respect to before and after.[3] Aquinas repeats this admonition in his own *Physics*-commentary, and thinks he has heeded it when he defines motion as "a being tending from potency to act."[4]

Ockham, by contrast, ignores these problems and attempts to clarify Aristotle's definition with liberal sprinklings of temporal indicators. Thus, he explains that the clause "motion is the act of a being in potentiality" "does not completely express the nominal definition of 'motion'," because "the predicate 'to be actual under one and in potentiality with respect to another' pertains as much to something at rest as to something in motion." For example, the table that is now white, has been white for ten years, and will be white for years to come, is nevertheless in act with respect to whiteness and in potentiality with respect to blackness. That is why it is necessary to add "insofar as it is in potentiality," "where the 'insofar as' denotes that *immediately after this*, something else will be actual."[5] And for sudden change (*mutatio subita*) to occur is for something to be actually something "insofar as *immediately before* this it was in potentiality and not in act with respect to it."[6] Again, asking about the nominal definition of 'to be in motion' (*moveri*), Ockham concludes that "for something to be in motion, it is enough that the moveable object continuously, without temporal interruption and rest, acquires something one part after another in succession" or "partially loses something."[7] Likewise, "to change (*mutari*) is to be otherwise *now* than it was *before*."[8]

So far as the ontological status and the category of motion are concerned, Aristotle offers different suggestions in different

3. Maier, *op. cit.*, chap. 1, 31–32.
4. Maier, *op. cit.*, chap. 1, 31–32.
5. *De successivis*, (Boehner ed., 65), (my italics).
6. *Ibid.*, 66, (my italics).
7. *Summulae Physicorum* IV, c.6, (OPh VI).
8. *Ibid.* III, c.3, (OPh VI), (my italics).

works. In the *Physics*, Book III, text 4, 200b33–201a2, he insists that

> there is no such thing as motion over and above things (*res*), however. For what changes always changes either with respect to substance, or to quantity, or to quality, or to place. But, as we said, there is nothing common in these changes that is neither quantified nor qualified nor falls under any other category. Thus, neither the motion nor the change of anything will be anything over and above the things mentioned, since there is nothing over and above them.[9]

Medievals took this to be the view that motion is nothing over and above the term of motion and differs from the latter only in degree. Thus, the process of becoming white is nothing over and above the successively acquired whiteness. They also took this passage to restrict motion to four categories: substance, quantity, quality, and place. In the *Categories*, chapter 9, 11b2–3, however, Aristotle mentions being heated (*calefieri*) and being cooled (*frigefieri*) as examples of being acted upon (*pati*), thereby suggesting that motions belong to the category of passion. And in *Metaphysics*, Book V, text 18, chapter 13, 102a31–33, he reasons that since motion is continuous, it must be quantified and so be in the category of quantity.

Trying to reconcile the first two of these conflicting passages, Averroes explains in his *Physics*-commentary that

> ...insofar as motion does not differ from the perfection to which it goes except according to more and less, it must exist in the genus of that perfection. For motion is nothing but the generation of one part after another of the perfection to which the motion is directed until it is perfected and exists in act. Thus, it is necessary that the motion that is in substance is found in the genus of substance, and the motion that is in quantity in the genus of quantity and likewise for motion in place and quality. But insofar as motion is the way to that perfection, where the way is other than the perfection, it must be a genus through itself. For the way to a thing (*res*) is different from the thing; and to that extent, it was assumed [to be] a category through itself. And the latter way is the more famous, but the former is the truer. Therefore, Aris-

9. Translated from Maier's quotation of Moerbeke's Latin translation, *op. cit.*, chap. 1, 5.

totle introduces the more famous way in the *Categories* and the true way in this book.[10]

Many medievals took Averroes to be drawing the same distinction in his comment on the beginning of Book V of the *Physics*, where he says that

> ...according to this way, motion is in the genus of that to which the motion proceeds, so far as its matter is concerned. But insofar as motion is a form in this matter, it must be judged that motion is a category through itself; and this is the way he considers motion in the book of *Categories*. Therefore, motion can be taken in two ways, because according to its matter it is in the genus of that to which the motion proceeds; but according to its form, i.e., insofar as it is transmutation joined with time, it is in the category of passion.[11]

Later medievals superimposed on this dichotomy Albert the Great's distinction between motion as a flowing form (*forma fluens*) and motion as the flux of a form (*fluxus formae*). And some, including John of Jandun and William Alnwick, took Averroes not to be offering two mutually exclusive accounts of motion, but two complementary ways of viewing the same phenomenon. From the point of view of its matter, motion is just successively introduced parts of form; from the point of view of its form, it is the f ux of these parts.[12]

Ockham's interpretation of the Commentator is different, however. He writes,

> ...Thus, it must be known that when the Commentator makes distinctions about motion, he does not mean that motion could be taken in two ways, so far as the truth of the matter is concerned, so that evidently one way it is the term to which and another way it is the way that differs from the term of the motion and from the moveable object. For no motion is any such distinct things. Rather he intends to say that there are two opinions about motion, of which the one, viz., the famous one, is false and the other true. For some said that motion is a thing that differs from the term from which the motion proceeds and from the

10. Translated from Maier's quote, *op. cit.*, chap.2, 63.
11. Translated from Maier's quote, *op. cit.*, chap.2, 65–66.
12. Maier, *op. cit.*, chap.2, 73, 84–85, 91–96.

> moveable object and from the term to which it proceeds, just as the road between two distant places really differs from each of the places at a distance from one another and also from the person walking on it. The latter was an opinion famous in Aristotle's time, just as it is also a famous opinion of the moderns, because they do not know how to resolve the sophistical arguments they produce. The other was the true opinion of Aristotle and is the opinion of other moderns...[13]

Why then does Aristotle give being heated and being cooled a examples of being acted upon and thereby suggest that motio is in the category of passion? Ockham explains that when th Philosopher is not directly treating of a given subject, he ma draw on famous opinions for his examples, whether these opin ions are true or false in his judgement.[14]

Ockham takes it as his task to defend the "truer" of thes opinions against the "more famous." In what follows we shal examine what reason and revelation have to say on both sides o this dispute, and we shall find the outcome far from decisive.

## 2. ARE SUDDEN CHANGE (MUTATIO SUBITA) AND MOTION (MOTUS) THINGS REALLY DISTINCT FROM PERMANENT THINGS?

While the moderns may have got the idea that sudden chang and motion were things (*res*) really distinct from permanen things from reading Aristotle and his Arab commentators, the were confident that this thesis could be defended by argument as well. For all permanent things share two important features (i) they are the kind of things that can exist for a period of time and (ii) they are the kind of things all of whose parts can exist a once. But sudden change lacks the first feature, since it is essen tially instantaneous.[15] On the other hand, motion has the firs

13. *De successivis*, 49; cf. *Summulae Physicorum* III, c.7, 55–56, (OPh VI).

14. *De successivis*, 51.

15. *Summulae Physicorum* III, c.4, (OPh VI).

feature but lacks the second, since it is essentially successive.[16] Similarly, the permanent things (*res*) involved in sudden change[17] and motion[18] can continue to exist when the sudden change and motion have ceased. Therefore, by the Indiscernibility of Identicals, neither sudden change nor motion can be really the same as any permanent thing (*res*). And they draw the further conclusion that they are really distinct instantaneous and successive things, respectively.

Again, they use the last mentioned consideration as the basis of an anti-Razor argument:

> When a proposition comes out true for things (*res*), if permanent things (*res*) do not suffice for its truth, it is necessary to add something else. The proposition 'A moveable object is in motion' is of this sort, because the permanent things can exist without motion's existing. Therefore, etc.[19]

A physical object and its whiteness can exist without its being in the process of becoming white. Similarly, for sudden change: prime matter and substantial form can exist without the latter's being suddenly introduced into the former (see Part Four, chapter 16 above).

Ockham is no more convinced by these arguments than he is by their analogues for really distinct quantities and relations (see Part One, chapter 6 and 7 above). He writes,

> ...Therefore, it must be said that although perhaps this mode of argument—'*A* is not *B*, and *A* exists; therefore *A* is other than *B*'—holds good in general, when the verb 'is' is not put in place of another verb—whether taken by itself or together with another—either in the premisses or the conclusion. Nevertheless, when it is put in place of another verb—whether taken by itself or together with another—and in place of itself taken together with another in some of the premisses and not in the conclusion, it is not necessary for such a mode of argu-

16. *De successivis*, 53; cf. *Quaest. Physicorum*, q.17, (OPh VI), and *Summulae Physicorum* III, c.7, 54, (OPh VI).

17. *De successivis*, 54.

18. *Quaest. Physicorum*, q.17, (OPh VI); *Summulae Physicorum*, III, c.7, 54, (OPh VI).

19. *Quaest. Physicorum*, q.13, (OPh VI).

ment to hold good.[20]

That is, arguments apparently of this form hold good, only where their premisses are taken literally to be of the indicated logical form, but not where statements of the form '*A* is not *B*' and '*A* exists' are being used as abbreviations for premisses of a very different logical form. Further, as he has pointed out elsewhere (see Part One, chapters 6 and 7 above), there is no guarantee that arguments with true premisses will have true conclusions, unless absolute terms are substituted for '*A*' and '*B*'. But since no one thinks that 'change' and 'motion' are synonymous with absolute substance and quality terms, Ockham reasons, they could be absolute terms only if they did signify things really distinct from substances and qualities. Again, the truth of 'A moveable object is in motion' could require the existence of such things, only if their existence were possible. And Ockham thinks that in each case he has arguments to prove the contrary.

(2.1) *Sudden Change (Mutatio Subita) Is Not a Really Distinct Thing.* Ockham musters four principal grounds for denying that sudden change is a thing really distinct from permanent things. (2.1.1) First, he argues that there are no things distinct from the moveable object, the term from which and the term to which motion proceeds, with which sudden change could be identified.

(i) When the medium is suddenly illuminated by the sun, either (a) there are in the medium some things (*res*) distinct from the light and other permanent things which are produced in the medium by illumination, or (b) there are not.

(ii) If (ib), then sudden change is not a thing distinct from those permanent things.

(iii) Every thing (*res*) is either a substance or a quality.

20. *De successivis*, 55–56.

(iv) Therefore, if (ia), then sudden change is either a substance or a quality.

(v) Sudden change is neither matter, substantial form, nor their composite.

(vi) Therefore, sudden change is not a substance.

(vii) Sudden change is not a state or condition, a natural capacity or incapacity, an affective quality, or a shape.

(viii) Therefore, sudden change is not a quality.

(ix) Therefore, not-(ia). (iv, vi, and viii)

(x) Therefore, sudden change is not a thing distinct from permanent things. (i, ii, and ix)[21]

The antecedent of (i) reflects the medieval theory of light shared by Ockham and his contemporaries, according to which the illumination of the medium is instantaneous; its consequent is merely an exhaustive disjunction. Ockham thinks he has established (iii) by means of the arguments discussed in Part One, chapters 6–8 above. In some versions of this argument, he replaces (iii) with

(iii′) Every thing (*res*) is either substance, quality, quantity, or relation,

probably because the Aristotelian texts on which he is directly commenting seem to presuppose the expanded list, and because he is confident of establishing his conclusion about sudden change even with (iii′), given the additional true premisses that the quantity and relations of the air are the same before and at the instant of illumination. Even if the latter claim were granted, however, it is difficult to see how Ockham expected such

21. *Ibid.*, 33–34; cf. *Summulae Physicorum* III, c.2, 48, (OPh VI).

reasoning to convince his opponents. For they think they can argue, by the Indiscernibility of Identicals, that sudden change cannot be identified with anything on the expanded list in (iii') and therefore conclude that (iii') must be false. Without some independent argument that sudden change cannot be a thing distinct from substances, qualities, quantities, and relations, they would not be compelled to accept either the list in (iii) or that in (iii') as exhaustive.

(2.1.2) Ockham does supplement (2.1.1) with what might be called a "scientific argument," however.

(i) Sudden change is instantaneous.

(ii) Therefore, if sudden change were a thing distinct from permanent things and were produced when the air was illuminated at *t*, then it would be corrupted immediately after *t*. (i)

(iii) Therefore, if sudden change were a thing distinct from permanent things, it would be corrupted immediately after *t* either (a) by the corruption of the subject, or (b) by the introduction of its contrary into the subject, or (c) through the absence of its cause, or (d) through the introduction of something incompossible with it by the agent.

(iv) The air continues to exist immediately after *t*.

(v) Therefore, not-(iiia).

(vi) Nothing is introduced immediately after *t* that was not introduced at *t*.

(vii) Therefore, not-(iiib) and not-(iiid). (vi)

(viii) The cause can remain after *t* just as it was before *t* and so produce or sustain after *t* whatever it produced at *t*.

(ix) Suppose it does. (viii)

(x) Therefore, not-(iiic). (ix)

(xi) Therefore, if sudden change were a thing distinct from permanent things, and the cause of the change remained after the change just as before, there would be no natural explanation of its corruption—which is absurd. (iii, v, vii, and x)

(xii) It is not the case that sudden change is a thing distinct from permanent things.[22]

Ockham's opponent would probably admit that it is naturally possible and sometimes the case for both the subject and the cause of the sudden change to remain after the sudden change as they were at the moment of the change, and so would grant (iv) and (viii). And while they presumably think that both light and sudden change are introduced into the air at *t*, they have said nothing about any new and different things being introduced immediately after *t*. Since they, like Ockham would want to avoid saying that something naturally undergoes corruption without there being any natural explanation of its corruption, they would probably deny (iii) and maintain that it is by the very nature of instantaneous change that it corrupts immediately after coming into existence. If Ockham were to reject such an appeal as obscurantist, they might retort that it is no more obscurantist than his own contention that it is simply the nature of matter and substantial form to unite to make something one *per se* and his rejection of demands for further explanation.

(2.1.3) A second scientific argument rests on Ockham's conviction that

(B) It is naturally impossible that infinitely many things (*res*) of which none is part of another or combines with another to make something one *per se* but which are wholly distinct, should be generated or corrupted in a finite time,

22. *De successivis*, 34; cf. *Summulae Physicorum* III, c.2, 48, (OPh VI).

which he has appealed to in trying to show that quantities are not things really distinct from substances and qualities, which inhere in substance and are the immediate subject of the qualities (see Part One, chapter 6). And he thinks he can prove that his opponents' thesis—that sudden change is a thing really distinct from permanent things—leads to a violation of (B).

(i) There are infinitely many instants in any time.

(ii) When an object undergoes locomotion, in each instant it changes place by a sudden change.

(iii) Therefore, there are infinitely many sudden changes in any locomotion. (i and ii)

(iv) Each sudden change is indivisible.

(v) No indivisible is part of another indivisible.

(vi) Indivisibles cannot combine to make anything one *per se*.

(vii) Therefore, if sudden changes were things really distinct from permanent things, there would be infinitely many produced in any locomotion in a finite time, and none would be part of another, nor would they all unite to make anything one *per se*. (iii, iv, v, and vi)

Ockham's opponents would probably not contest his argument for (vii), but would insist that what it refutes is not so much their thesis as (B). Indeed, Ockham's contemporary and usual adversary Walter Burleigh remarks, "I am amazed by the fact that many doctors are amazed by infinitely many individuals."[23]

(2.1.4) Finally, Ockham argues that it is ontologically superfluous to assume any such instantaneous entities:

23. *De intensione et remissione formarum*, c.6, (Venice, 1496, fol.14v).

> ...It is futile to do with more what can be done with fewer. But leaving aside everything other than matter, form, the agent, and other permanent things, and assuming that prime matter first does not have the form and afterwards has it and does not have one part of it before another, the matter really changes. Therefore, it is futile to assume anything other than matter, form, the agent, and the other permanent things in order to save change.[24]

Ockham anticipates the objection that matter and substantial form will not suffice for the substantial change, because there is a relation to the nonexistence of the form, and this relation inheres in the matter before the substantial change and is destroyed by the introduction of the form into the matter.[25] Indeed, in his *Sentence*-commentary, Ockham himself has argued that there must be a relation of inherence that is really distinct from the matter and the substantial form and that accounts for the inherence of the latter in the former (see Part One, chapter 7). In the *Tractatus de successivis*, where he is representing his own position, however, he replies that "according to the intention of the Philosopher and the Commentator, relations are not distinct things of the sort that some imagine them to be."[26] And whatever may be the case about relations, there is no need to assume that sudden change is anything really distinct from such permanent things. Indeed, Ockham thinks that (B) gives us reason to believe that they are not.

(2.2) *Motion (Motus) Is Not a Really Distinct Thing.* If there are no essentially instantaneous things, Ockham is convinced that there are not essentially successive things either. (2.2.1) His first argument challenges the intelligibility of the notion of a real thing (*res*) not all of whose parts can exist at once.

(i) If motion is a thing distinct from permanent things, either (a) it is simple, or (b) it is complex.

(ii) If (ia), then motion would not differ from sudden change—which is absurd.

24. *De successivis*, 35.
25. *Ibid.*
26. *Ibid.*, 35.

(iii) Therefore, not-(ia). (i and ii)

(iv) If (ib), then (a) either its parts all exist, or (b) it is not the case that its parts all exist.

(v) If (iva), then all of the parts of motion exist simultaneously—which is false by the definition of motion.

(vi) Therefore, not-(iva).

(vii) What does not exist is not part of anything.

(viii) Therefore, not-(ivb). (vii)

(ix) Therefore, not-(ib). (vi and viii)

(x) It is not the case that motion is a thing distinct from permanent things. (iii, ix, and i)[27]

Ockham comments that "the Philosopher gives this argument concerning time," thereby hoping to put Aristotle's authority behind his negative conclusion.[28] Nevertheless, premiss (vii) seems simply to beg the question at issue. For those who believe in successive things will insist that there are things whose parts exist at different times and cannot exist all at the same time. Why could they not say that each part of motion is simple and indivisible the way sudden changes are? Or even that the infinitely many sudden changes referred to in Ockham's argument (2.1.3) above are the parts of such motion; but the motion itself is a whole composed of such parts and extended over time the way physical objects are naturally extended over space?

Ockham does not explicitly consider such an objection, but he could have answered it by reminding his opponents of a feature of motion acknowledged by all parties to the dispute,

27. *Ibid.*, 43; *Quaest. Physicorum*, q.13, (OPh VI); and *Summulae Physicorum* III, c.5, 53, (OPh VI).

28. *De successivis*, 43.

viz., its continuity. If motion is continuous the way a line is continuous, then—given Aristotle's definition of continuity—it is not more possible for motion to be composed of indivisible parts located at different times than it is for a line to be composed of points in space (see Part One, chapter 6). They could have preserved the continuity of motion by holding that any motion is infinitely divisible into parts each of which is itself temporally extended and none of which can exist at a single instant. No doubt, Ockham would have found such temporally extended parts as much or more absurd than the temporally extended wholes assumed by his opponents, although he says nothing in the present argument to show such a view to be contradictory. On the other hand, none of his opponents seem to have developed the belief in successive things in this way.

(2.2.2) Second, Ockham objects to successive things as to instantaneous things on "scientific" grounds. For according to his opponents' position, a successive thing is introduced into its subject one part after another, continuously, in such a way that the part that exists in the subject now will be corrupted immediately afterwards and replaced by a new part, etc. Ockham asks what the cause of this corruption could be? Not the destruction of the subject or the removal of the cause; for the subject remains in existence and the cause continues to act throughout the motion. Nor is the present part corrupted by the introduction of anything incompossible with it. For the parts of motion will be things of the same species, and things of the same species are not formally incompossible with each other. Ockham concludes that if motion were such a successive thing, some things or parts of things would be naturally corrupted without their being a natural explanation of their corruption —which seems absurd.[29]

Ockham's opponents might have replied, however, that no extrinsic cause of this corruption is needed. For it is by its very nature that the part of a successive thing that exists now will be corrupted immediately afterwards; and it is by the very nature of motion that no two of its parts can exist simultaneously. For

29. *Ibid.*, 48.

if they could, then motion could occur in an instant—which is absurd.

(2.2.3) Ockham's response is to turn this last contention against them by making it a premiss in the following argument:

(i) The existence of one part of motion is incompatible with the existence of another part of motion in the nature of things.

(ii) The existence of one absolute thing (*res*) is never inconsistent with the existence of another absolute thing in the nature of things.

(iii) Therefore, motion is not an absolute thing (*res*) distinct from permanent things.[30]

Ockham's opponents apparently regarded successive things as absolute things. But he anticipates their objection that (ii) is not true in general but holds only for permanent and not for successive absolute things. Ockham replies with an ingenious argument based upon the following plausible principle:

(C) When some multitude of things are of the same kind and it is not contradictory for them all to exist simultaneously in the nature of things, it is not contradictory for others of the same kind to exist simultaneously in the nature of things either.

If no contradiction is involved in Socrates and Plato existing simultaneously in reality, then, by (C), no contradiction is involved in Aquinas and Scotus existing simultaneously in reality either, since the latter pair belong to the same species as the former. Likewise, if the whiteness of Socrates can exist in reality simultaneously with that of Brownie the donkey, so can the whiteness of the table and the whiteness of some milk, since all whitenesses are of the same species as well. Now suppose equal

30. *Quaest. Physicorum*, q.13, (OPh VI).

amounts of water in two kettles are being heated simultaneously over equally intense fires. The two heating processes will be simultaneous, and part of the one heating process will be simultaneous with part of the other. If heating processes were things really distinct from absolute permanent things such as water and heat, then part of one heating-process-thing would be simultaneous with part of another heating-process-thing. But all of the parts of a heating process are of the same kind, and the parts of the first heating process are of the same kind as the parts of the second heating process. By (C), if part of one heating-process-thing can be simultaneous with part of another heating-process-thing, then different parts of the same heating-process-thing can exist simultaneously. Consequently, it would be possible for a heating process to be instantaneous—which is absurd. The same argument can be offered for other motions.

Advocates of the view that motion is a successive thing really distinct from permanent things could renew their objection by protesting that (C) is not generally true but applies only where permanent things are concerned. Indeed, Ockham sees them as objecting that if (C) were true, it would be the basis of an argument that Ockham's position implies that motion can exist simultaneously.[31] While the charge is not developed there, the idea presumably is this: suppose that motions are not successive things really distinct from permanent things, but that the occurrence of motion is reducible to the existence of a permanent thing or things through time in certain ways. Even so, (C) will apply to the thing to which motions are reduced. And we will be able to infer as before that since part of one heating process can exist simultaneously with part of another, two parts of the same heating process can exist simultaneously, and a heating process can be instantaneous.

Ockham's reply does not come to grips with the objection, but simply enunciates the impossibility that each party is wielding against the other: that while 'Motion can exist in an instant' is true where the subject is taken to stand for the part that

31. *Ibid.*

exists, 'Motion exists in an instant' and 'Something moveable moves instantaneously' are impossible, because they imply the simultaneous truth of contradictories.[32] Nevertheless, Ockham could have answered that it does make a difference whether motion is conceived of as a really distinct successive thing divisible into homogeneous parts to which (C) applies, or whether the occurrence of motion is reduced to the existence of various permanent things in different ways. For in the heating process, the water may be hot in degree $n$ at $t$ and hot in degree $n + 1$ at $t'$, and the water cannot simultaneously be hot in degree $n$ and hot in degree $n + 1$. It is, therefore, not reasonable to take (C) as applying to the entities or states of affairs to which motion is reduced by Ockham, although it has considerable plausiblity where unreduced things are concerned.

Turning his attention to locomotion in particular, Ockham offers two arguments that it cannot be a thing distinct from permanent things. (2.2.4) The first asks, once again, what thing or things locomotions could be? There are at least two reasons why it cannot be an absolute thing: (a) first, if locomotion were an absolute thing, it would have to be either a quantity, a quality, or a substance (see Part One, chapter 5 above). And if locomotion were a quantity, a quality, or a substance, then everything in locomotion would have a new substance or a new quality or a new quantity—which, Ockham observes, "is manifestly false."[33] (b) Further, if locomotion were an absolute thing, it would be just as perfect as its term. But a thing is supposed to be perfected more by its term than by the motion to its term.

On the other hand, there are numerous reasons against saying that locomotion is a relative thing: (c) First, "because everything is an absolute thing."[34] Further, if there were such things as relative things, locomotion would have to be identified with the relation of the moveable or moving object to the cause of motion. But that relation stays the same throughout the

32. *Ibid.*
33. *De successivis*, 44.
34. *Ibid.*

locomotion. Consequently, if motion were such a thing, it would be a permanent thing and not really distinct from permanent things the way Ockham's opponents say it is.[35] (d) Similarly, if locomotion were a relative thing, then the most perfect motion would be less perfect than a permanent thing.[36]

This reason seems just as unconvincing as Ockham's corresponding argument for sudden change, viz., (2.1.1), however. As for (a), why should some of his opponents not follow Aristotle in affirming that continuous motion is a kind of quantity? Nor can Ockham answer, "because I have proved elsewhere that quantities are nothing really distinct from substances and qualities." For Ockham did not consider the putative case of locomotion there (see Part One, chapter 6 above). As for (b), it seems far from universally true that a thing is perfected more by the term of motion than by the motion itself. This is not true when a subject changes from having to being deprived of something. And the notion that an object in locomotion is more perfected by reaching its goal than by travelling to it would seem highly debatable. Why, one might ask, is it more perfect for a physical object to be in one place natural to it rather than another? (c) seems indecisive, in that Ockham did not consider the suggestion that motion is a relative thing in arguing that, from the point of view of unaided natural reason, there are no relations really distinct from absolute things (see Part One, chapter 7 above); and the motivation behind (d) is highly obscure. Even if one took Aristotle's comment that locomotion is the most perfect of motions at face value, why should it be obvious that the most perfect motion was more perfect than some permanent things?

(2.2.5) Second, Ockham argues, his opponents' doctrine contradicts the Aristotelian doctrine that the heavens are not in potentiality with respect to anything but place. For if locomotion were a thing distinct from permanent things, it would be distinct from place and it would inhere in the object that is in

35. *Ibid.*; cf. *Summulae Physicorum* III, c.5, 53, (OPh VI); *Quaest. Physicorum*, q.14, (OPh VI).

36. *Quaest. Physicorum*, q.14, (OPh VI).

motion. Further, since locomotion is allegedly a successive thing, new things or parts of things would inhere in the moving objects at each new instant of their motion. Consequently, the moving object would not have the same thing or part of a thing inhering in it throughout its motion and so would be in potentiality with respect to each thing or part of a thing at some time. Since the heavens are in motion, it would follow that the heavens are in potentiality with respect to something other than place.[37] Ockham's opponents could reply, however, either by rejecting Aristotle's claim as false or by construing it as an assertion about permanent things only and as leaving successive things out of consideration.

Ockham's actual argument that alteration or qualitative change is not a thing really distinct from permanent things seems just as weak as the ones he offered in connection with locomotion. (2.2.6) He reasons that if alteration were a successive thing really distinct from permanent things, then parts of that thing would be continuously lost and acquired throughout any alteration. Thus, any alteration in which one part of a form was continuously lost after another, would be one in which parts, viz., those of the alteration, were being continuously acquired; and any alteration in which one part of a form is acquired after another would be one in which one part is lost after another. Consequently, every alteration would involve both the gaining and losing of parts.[38]

Ockham's opponents could simply reply, however, that this argument points only to a superficial oddity in their position. It would not follow, for example, that they would be unable to distinguish alterations in which form is lost from those in which it is acquired in a way extensionally equivalent to that employed by Ockham; for they could contend that only the loss or gain of parts of permanent things is considered in drawing this distinction, while alteration is supposed to be a successive thing.

Ockham does salvage something from his observation, how-

37. *De successivis*, 44.
38. *Ibid.*, 44–45.

ever, when he appeals to the Razor. For leaving aside complications that are irrelevant here (see discussion of the increase and decrease of forms below), it seems that the subject and the successively added parts of whiteness are the only *things* that need exist in the course of something's becoming whiter; the subject and the successively lost parts of whiteness, when something becomes less white or loses whiteness altogether. If so, it is futile to assume any such successive entities in order to account for alteration.[39]

(2.2.7) His argument that augmentation and reduction are not really distinct successive things is likewise based on the Razor:

> in such motion, it is enough that quantity alone is acquired or lost without anything else [being acquired or lost]. Therefore, it is futile to assume anything besides quantity and other permanent things there.[40]

As we have seen (in Part One, chapter 6 above), Ockham does not think that quantities are things really distinct from substances and qualities. He argues that the augmentation and reduction involved in condensation and rarefaction can be accounted for solely in terms of the locomotion of the parts of the condensed and rarified things without the assumption of any such really distinct quantities. This will explain such augmentation and reduction without appeal to successive things, however, only if Ockham is right in claiming that locomotion is not such a successive thing. The growth and reduction of animate things can be explained merely in terms of the addition or loss of parts of matter and of substantial form; no further entities seem to be required.

(2.3) *Summary of Ockham's Critique.* Ockham's arguments that sudden change and motion are nothing distinct from permanent things seem disappointing on the whole. His contentions in (2.1.1) and (2.2.4) that there are no things available in his ontology for sudden change and locomotion to be identified with seem simply to beg the question against his opponents'

39. *Ibid.*, 46.
40. *Ibid.*, 45.

ontology. Likewise, his insistence in (2.2.1) that only what exists can be part of something, or that wholes can be made up only of presently existing parts, does not seem to be so much an argument against as an outright rejection of their claim that some things are permanent, while others are successive. To his allegation in (2.1.2) and (2.2.2)—that if sudden change and motion were things, they would be things for the corruption of which there would be no natural explanation—his opponents can respond that it is the very nature of these things that explains why they are corrupted as they are. And many would simply reject his major premiss in (2.1.3) that (B) it is naturally impossible for infinitely many wholly distinct things to be generated and corrupted in a finite time. Perhaps the most intriguing is Ockham's attempt to show in (2.2.3) that if motion were a successive thing really distinct from permanent things and divisible into homogeneous parts, then it would be logically possible for motion to occur instantaneously—which all parties to the dispute would deny. His reasoning turns on his assumption of

> (C) When some multitude of things are of the same kind and it is not contradictory for them all to exist simultaneously in the nature of things, it is not contradictory for others of the same kind to exist simultaneously in the nature of things either,

which his opponents could deny at some cost in plausibility.

That leaves the Razor-arguments. And Ockham's claim that the various changes can be accounted for without assuming such really distinct instantaneous or successive entities seems fairly credible. In response to his opponents' anti-Razor argument—that since the moveable objects and space can exist without there being any locomotion, motion must be something really distinct from permanent things—Ockham replies that it is true that 'A moveable object exists' and 'Space exists' do not jointly entail 'A moveeable object is in motion'. But this is not because 'A moveable object is in motion' entails the existence of any further things. Rather it is because it signifies in addition

that the moveable object is joined first to one part of space and then to another continuously and without interruption. Thus, even if the moveable object and space exist but do not exist in that way, there will be no motion.[41] Unless some further anti-Razor argument can be advanced, Ockham is in no way compelled to agree that 'change' and 'motion' are absolute terms and hence remains free to reject the arguments that his opponents ostensibly base on the Indiscernibility of Identicals.

(2.4) *Ockham's Position*. Ockham's conclusion is that

> ...Sudden change is not a thing (*res*) distinct from permanent things and destroyed after the first instant at which the subject is suddenly changed...Rather for the subject to change suddenly is only for the subject to have a form that it did not have earlier or lack a form that it had earlier—nevertheless, not part by part in such a way that it has one part of the form before the other; nor does it lack one part before it lacks another. But it receives the whole form simultaneously or loses the whole simultaneously.[42]

Similarly, he asserts that "motion is no such thing (*res*) wholly distinct from permanent things."[43] But "for something to be in motion, it is enough that the moveable object continuously, without temporal interruption and rest, acquires something one part after another in succession" or "partially loses something."[44]

So far from being absolute nouns, Ockham thinks that the abstract nouns 'change' and 'motion' abbreviate other, longer expressions and often do not have the force of nouns at all. This comes out in his reply to the charge that his position makes change and motion unreal. For example, in the *Tractatus de successivis*,

> Suppose you ask whether change is a thing (*res*) or not? If it is not a thing, then it is nothing. Therefore, nothing is changed by a real change...

41. *Quaest. Physicorum*, q.13, (OPh VI); *De successivis*, 45.
42. *De successivis*, 36–37.
43. *Ibid.*, 45.
44. *Summulae Physicorum* VI, c.6, 53, (OPh VI).

And Walter Burleigh alleges that Ockham, in denying that motion is a thing really distinct from permanent things, has committed himself to the view that "motion is a non-being" and warns that "to deny the existence of motion is to destroy natural science."[45] Ockham responds that

> such nouns that are derived from verbs as well as those derived from adverbs, conjunctions, prepositions, and syncategorematics...are introduced only for the sake of brevity or the ornamentation of speech, and many of them are equivalent in signification to complex expressions, when they do not supposit for the words from which they are derived. Therefore, they do not signify any things besides those words from which they are derived and their significata. Moreover, names of this sort include all of the following: 'negation', 'privation', 'condition', 'perseity', 'contingency', 'universality', 'quantity' (where we are speaking of the quantity of a proposition), 'action', 'passion', 'heating', 'cooling', 'change', 'motion'...[46]

Further, "since such names are invented for the above mentioned reasons, they are understood in many and diverse ways and equivocally by authors in different places,"[47] with the result that "it is difficult to find a general way of expounding such propositions." Sometimes the word 'change' is simply doing duty for the verb from which it was derived: e.g., 'Change is truly predicated of Socrates' (where the subject term has material supposition). But often it is put in place of more complex expressions. For example, 'Change is what goes from prior to posterior' is understood to mean 'When something changes, it goes from prior to posterior'.[48] Again, in 'Change is the acquisition or loss of something', 'change' is substituted for 'when something changes' 'acquisition' for the verb 'acquires', and 'loss' for the verb 'loses'; so that it is equivalent to 'When something changes, it acquires or loses something'.[49]

45. Translated from Maier's quotation, *op. cit.*, chap. 1, 47.
46. *De successivis*, 37.
47. *Ibid.*, 38.
48. *Ibid.*
49. *Ibid.*, 39.

Returning to the objector's query, "What is change? Either it is a thing (*res*) or it is not..." Ockham says that this is like asking, "What is when something changes?" or like saying "either when something changes is a thing (*res*) or it is not." And he maintains that either the latter is not a proper question, or it must be construed in one of the following ways. (a) 'When something changes' can be take to have material supposition for the spoken expression or simple supposition for the corresponding concepts. So understood, it can be said that when something changes is a thing (where the expression has material or simple supposition), because both the spoken and written expression and the corresponding concepts are things. (b) On the other hand, the question could be taken as a request for a nominal definition, in which case the answer is that "when something changes, it acquires something that it did not have earlier or loses something it had earlier."[50]

Going back to his opponents' Indiscernibility-of-Identicals argument that sudden change is a thing really distinct from permanent things, Ockham says that the proposition 'Change is instantaneous' is false where the subject term is understood as an absolute term, but true when taken as equivalent to 'The moveable object changes with respect to something, but does not change with respect to it successively'[51] or to 'When something changes, it changes instantaneously and not in time'.[52] But rendered in either of the latter ways, it will not combine with the premiss about permanent things to yield the conclusion that change is really distinct from permanent things.

In the same way, 'motion' was invented for the sake of abbreviation and frequently takes the place of longer, complex expressions. Thus, Ockham comments in *Expositio in libros Physicorum*,

> 'motion' no more signifies anything wholly distinct from others signified by other names than such conjunctions as 'if', 'and', 'or', and

50. *Ibid.*, 39–40.
51. *Summulae Physicorum* III, c.4, 52, (OPh VI).
52. *Ibid.*, 51, (OPh VI).

> 'because' do, or than such prepositions as 'from', 'in', 'of', 'out of', etc., or than adverbs and syncategorematics do...[53]

Thus, the proposition 'Motion exists' is true when it is expounded by the proposition 'A moveable object now has something and immediately before did not have it but had something else and immediately afterwards will have something else'.[54] 'Motion is in time' abbreviates 'When something is in motion, it does not acquire or lose everything it acquires or loses all at once, but one after another'.[55] And 'Motion does not have all of its parts at once' should not be granted when it is understood to mean 'Motion is a whole of which one part exists and another does not' but only when it is equivalent to 'What is in motion has something and lacks something that it will have later'—from which it does not follow that there exists anything really distinct from all past, present, and future permanent things, but only that there are some future permanent things in addition to those that exist now or that what is in motion will exist in a place in which it does not exist now.[56] On the other hand, since the usage of such abstract nouns is stipulative, Ockham allows that they sometimes function as connotative nouns. For example, he says in *Quaestiones in libros Physicorum,* chapter 22 that 'Locomotion is the moveable object acquiring space successively' and 'Locomotion is space particularly and continuously acquired by a moveable object' should both be granted when taken literally.

(2.5) *Plurality without Necessity?* Ockham has contended that it is superfluous to assume any successive things really distinct from permanent things, in order to account for motion—whether locomotion, alteration, or augmentation and reduction. John Buridan substantially agreed with Ockham where alteration is concerned. Raising the question, "whether for there to be alteration, it is necessary for there to be a flux

53. III, t.15, fol.33vb, (OPh IV).
54. *Quaest. Physicorum*, q.36, (OPh VI).
55. *De successivis*, 48–49.
56. *Ibid.*, 57.

distinct from the alterable thing and the quality with respect to which there is alteration," he answers that "in real alteration such as heating, there is no flux distinct from the heat that is continuously acquired one part after another, and likewise the cold which is continuously lost one part after another, or vice versa."[57] And he explains that

> such additional flux would be assumed only in order to save succession. But the succession is saved without such an addition, by virtue of the fact that continuously there is one degree part of heat earlier and another following it in existence later. Therefore, it would be altogether futile to assume such an addition.[58]

As we have seen, Ockham insists that locomotion should receive an analogous treatment: just as for a thing to be altered is for it to receive or lose parts or a qualitative form, one after another, continuously; so for a thing to be in locomotion is for it to be in different places, one after another, continuously.[59] Buridan perceived a theological obstacle to this account, however. For the Bishop of Paris had condemned as an error the claim that "God could not move the whole world in a straight line at once." But on the Aristotelian view (see below), there is no place outside the whole world. If rectilinear motion were analysed as change relative to place, it would seem impossible for the whole world to be moved in a straight line all at once. Dealing with a similar problem, Richard Middleton had suggested that God could move something when there was no space, in the sense that it would always be possible for Him to create space outside the object and move it through that newly created space.[60] Thus, God could move what is *now* the whole world in a straight line, if He were to create space outside it through which to move it. But so long as rectilinear motion is change relative to place, He would not be able to move what

57. *Quaestiones super octo libros Physicorum*, (Paris, 1509), translated from Maier's quote, *op. cit.*, chap.2, 118.

58. Translated from Maier's quote, *op. cit.*, chap.2, 119.

59. *De successivis*, 45.

60. Maier, *op. cit.*, chap.2, 123–24.

was the whole world *then* without creating still more space, etc. Apparently, Buridan felt that if this solution met the letter, it was not true to the spirit of the bishop's pronouncement. He reasoned that since there is no place outside the whole world, it must be that God "could move the whole world" in a straight line, "even though there were no place."[61] And if so, such rectilinear motion of the whole world cannot be explained in terms of its being continuously in different places. Likewise, if the whole world were rotated on its axis together, there would be no change in the relation of the outermost heaven to any of the bodies in the world. If succession is to be preserved in such cases, it must be that there is something distinct from the moving object whose parts inhere in the moving object, one after another, continuously. Thus, Buridan writes,

> the motion of the last sphere is a purely successive thing, evidently, whose prior and posterior parts do not exist simultaneously. For if it were a thing of a permanent nature, then the last sphere would no more be one way earlier and another way later with respect to it than it is with respect to its magnitude and figure of its other permanent accidents—which is false.[62]

To say that where there is no change with respect to place, rotational motion cannot be saved without assuming a thing really distinct from and inhering in the moving object, is not to imply that rotational motion is always a distinct successive thing. For when a moving object does change its relation to various places, then the rectilinear or rotational motion can be saved without appealing to any such distinct thing. It is clear from another ontological discussion that Ockham would have regarded such a hybrid position—that rotational motion is sometimes a successive thing really distinct from and inhering in the moving object and sometimes not—as altogether incongruous. How could different instances of rotational motion have such radically different ontological statuses? Perhaps moved by the same intuition, Buridan says in a later question

61. Quoted by Maier, *op. cit.*, chap.2, 122.
62. Translated from Maier's quote, *op. cit.*, chap.2, 127.

that "every motion exists in the moveable object—i.e., in what is in motion—as in a subject, by real inherence, just as whiteness exists in a surface."[63] As for the objection that then

> God could separate and separately conserve motion without the moveable object and place, indeed when He has annihilated the latter—which seems awkward, since then there would be motion and nothing in motion.

Buridan replies,

> I would not regard it as any more of a difficulty that there should be motion and nothing in motion than that there should be whiteness and nothing white. Neither is possible naturally, and each is possible supernaturally.[64]

Thus, in Buridan's opinion, what is essential to rectilinear motion, rotational motion, etc. is the inherence of the successive thing in the moving object. Strictly speaking, such motions will not count as *loco*motions unless they are actually accompanied by a change in the moving object's relation to places, and they always are so accompanied in the natural order of things. But the motions themselves could exist in the moving object without any such relation to places, and the denomination "locomotion" is as much a contingent, extrinsic denomination of the motion as "creator" is a contingent, extrinsic denomination of God.

## 3. ACTION AT A DISTANCE AND UNCAUSED MOTION?

Aristotle begins Book VII of the *Physics* with the assertion of

(A) Everything that is in motion must be moved by something

63. Translated from Maier's quote, *op. cit.*, chap.2, 129.
64. Translated from Maier's quote, *op. cit.*, chap.2, 128–29.

(chapter 1, 241b24–25) from which he tries to derive

> (B) Everything that is in motion is moved by another (*Omne quod movetur ab alio movetur*),

a key premiss in his famous unmoved-mover argument.[65] In his *Expositio in libros Physicorum*, Ockham joins Scotus[66] in finding counterexamples to (B) in cases of self-motion (where 'motion' is taken broadly to cover sudden changes as well). He writes that

> a heavy object is an efficient cause of its own downward motion; and heated water returns to coldness through itself; and the will moves itself causing a volition or hate in itself. Thus, not only what is specifically the same, but what is numerically the same is the subject of an effect and an efficient cause of the same thing,[67]

and goes on to claim (implausibly) that Aristotle was not out to prove the existence of "an absolutely unmoveable mover" but only that there is a first among moved objects and that it is not moved by anything outside itself.[68] Yet, despite his rejection of (B), Ockham raises no murmur against (A) in this context.

Aristotle did not believe in action at a temporal distance, and Averroes accordingly took (A) to imply not only that the begin-

65. James A. Weisheipl, in his article "The Principle *Omne quod movetur ab alio movetur* in Medieval Physics," *Isis* LVI (1965), 26–45, insists that the correct translation for Aristotle and Aquinas is 'Everything that is moved, is moved by another', where the first '*movetur*' is taken in the passive voice just as the second is (29). Anthony Kenny maintains, however, that '*movetur*' may be used to translate an intransitive occurrence of 'moves' in English, as well as a passive form of the transitive 'moves' in English. Fewer questions are begged by treating absolute occurrences of '*movetur*' as the former rather than the latter (in *The Five Ways*, (London, 1969), 8–9). In any event, Ockham and Scotus would object to either version of the principle.

66. For a discussion of Scotus's treatment of (B), see Roy Effler, *John Duns Scotus and the Principle 'Omne Quod Movetur ab Alio Movetur'*, (St. Bonaventure, NY, 1962).

67. II, t.70, fol.25rb, (OPh IV); cf. VIII, t.2, fol.25rb, (OPh V).

68. VII, t.3, fol.88va, (OPh V).

ning of every motion has a cause, but also that

(C) Throughout a motion, there is a cause of its continuation and that cause acts simultaneously with that continuation.[69]

He also undertood Aristotle to hold that

(D) There is nothing in between the proximate efficient cause of motion and the thing moved,

i.e., where efficient causes of motion are concerned, there is "no action at a spatial distance" either.[70] And Averroes supposed these principles to hold whether the motion in question is locomotion, alteration, or augmentation and decrease.

When medieval *Physics*-commentators turned to Book VII, they focused with Averroes on apparent counterexamples to (D) and/or (C): cases in which what seem prima facie to be the first mover never touches the moved object—e.g., when the sun illuminates or heats the earth, or when a visible object acts on the sense of vision or on the intellect; cases in which the apparent mover does not touch the moved object at the beginning of the motion but only afterwards—e.g., when the magnet attracts iron; and cases in which the apparent mover touches the moved object at the beginning of the motion but not afterwards—e.g., projectile motion. In what follows, I shall concentrate on Ockham's contribution to this discussion, in which some historians of philosophy and science have found not only a rejection of (D), but a repudiating of (A) and (C) as well.

Ockham discusses these matters in at least three places. The

69. Weisheipl, *op. cit.*, argues that Aquinas would not allow the inference of (C) from Aristotle's views. For Aquinas thinks that when a heavy object moves downward, its form is continually a *principium*, i.e., a source of its motion; but it cannot be a cause of its motion since it is not really distinct from the thing moved (38–41). Weisheipl suggests further that Franciscus de Marchia regarded the *virtus direlicta* as a *principium* and not a cause (43–44; see section (3.2) below).

70. Cf. *Physics* VII, 2, 243a3–4.

earliest is probably in the question "whether a sensible thing impresses its species on the medium?" which is printed as *Reportatio* II, q.18 in the Lyon edition, but found in Book III in the majority of manuscripts.[71] In this discussion, Ockham argues that the above mentioned counterexamples proved (D) false, and develops an account of the first two sorts of cases that violates (D). He admits, however, that his explanation still leaves room for doubts concerning projectile motion. He returns to these cases in a discussion which is printed as part of *Reportatio* II, q.26 but which is found in Book III in all the manuscripts.[72] In fact, his treatment of these cases does not appear to belong to q.26 proper either. The margin of the edition of F contains the announcement "*Sequuntur notabilia huius secundi alibi quoque deservientia*," and Maier characterizes F–X as "a sort of appendix" in which "Ockham returns once again to a whole list of problems discussed earlier and corrects or modifies his earlier expressed views."[73] And she speculates that these changes were made by Ockham orally in his lectures, recorded by a student, and found their way into the *Reportatio*. Ockham's latest discussion of these problems occurs in his *Expositio in libros Physicorum*, VII, t.10, where he focuses on the views of Aristotle and the Commentator. But while he does raise objections to their positions, his own distinctive responses from the *Reportatio* are not repeated and he covers all such objections with a blanket disclaimer—that these arguments are not presented because they are sound, but to stimulate the students.[74]

(3.1) *Cases in Which What Seems Prima Facie to Be the Mover Never Touches the Moved Object*. For the sake of simplicity, let us focus on the case of the sun's lighting and heating the earth. The sun never touches the earth; there is

71. Philotheus Boehner, "Der Stand der Ockham-Forschung," *Collected Articles*, #1, 4.

72. Boehner, *ibid*.

73. "Zu einigen Problemen der Ockhamforschung," *Ausgehendes Mittelalter* I, 175–208, at 180–81.

74. *Expos. Physicorum* VII, t.10 and 12, (OPh V).

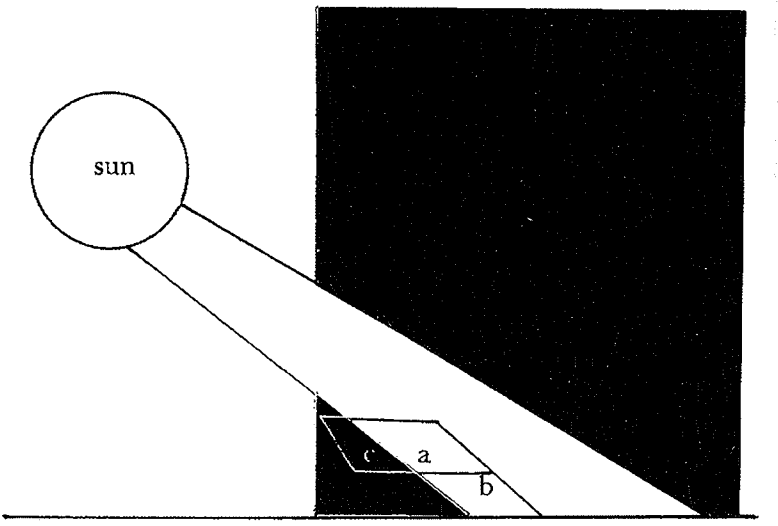
always something in between them. Hence, this case seems to be a counterexample to (D). The principal way of removing the incompatibility was to say that the sun illuminates the medium adjacent to the sun and thus sets off a chain reaction in which that medium illuminates the medium adjacent to it, and so on down to the medium adjacent to the earth, which acts directly to illuminate the earth—in which case there is no violation of (D).

In Reportatio III, q.2, (OTh VI, 48–51), Ockham rejects this solution to the problem. He replies that either proponents of this solution mean to say that the sun is only a mediate and not an immediate cause of the earth's being illuminated, or that the sun is not the only immediate cause of the earth's being illuminated but acts together with the illuminated medium adjacent to the earth as another immediate partial cause of the illumination of the earth; and since the sun never touches the earth, it acts at a distance—which is contrary to (D). On the other hand, Ockham charges that the former explanation yields results contrary to experience. Consider, for example, what happens when the sun shines through an open window. A certain portion of the medium and the floor of the house will be illuminated; but where the wall surrounding the window comes between the sun and the rest of the medium and floor of the house, the latter are not illuminated. This is easily explained on the hypothesis that the sun is an immediate cause of the illumination of the medium and the floor of the house, but not on the assumption that the medium is the immediate cause of this illumination. For Ockham contends that

(E) A natural agent equally close to two patients that are equally disposed produces the same effect in both.

But there is a part at the edge of the illuminated portion of the medium (labelled *a*) that is equally adjacent to the illuminated portion nearer the floor (labelled *b*) and to an unilluminated portion (labelled *c*). By (D), if *a* were the immediate cause of the illumination of *b*, it would equally well illuminate *c*—which is contrary to experience. (The same argument is repeated and

developed in detail in *Expositio* VII, t.12, fol.90vb, (OPh V); but at the end he remarks that "these things have been said as an exercise for the students.")




Ockham anticipates the objection that "the illuminated medium can cause light in another [part of the] medium distant from it in a straight line but not in a lateral line."[75] Thus, since *c* is reached by moving sideways from *a*, it is not just as disposed to be acted upon by *a* as *b* is. But he rejects the suggestion as unreasonable, since "a straight line can be drawn from that [part of the] medium", viz, *a*, "to every part of it," including *c*, whether or not there is an obstacle in between that part and the sun.[76] Ockham sees no reason to believe that natural causes have a preference for acting on things reached from them by

75. *Rep.* III, q.2, (OTh VI, 50).
76. *Ibid.*

vertical as opposed to horizontal straight lines, however, and hence refuses to restrict (E) in the way suggested. Examples of this kind can be easily multiplied.

(3.2) *Cases in Which What Seems Prima Facie to Be the Mover Does Not Touch the Moved Object at the Beginning but Does at the End of the Motion.* When a magnet attracts iron to itself, it does not touch the iron at the beginning of the motion, but it does do so when the motion is complete. Hence it seems to act at a spatial distance—which is contrary to (D). According to Ockham, the Commentator tried to remove this difficulty by supposing that the magnet causes some accidental property or quality in the iron, which in turn acts to move the iron towards the magnet. As inherent in and so not at a distance from the iron, such a quality would not act at a distance in causing the iron to move. One of Ockham's contemporaries, Franciscus de Marchia, seems also to have held that the magnet moves the iron by producing a force (*virtus*) in it, which force lasts throughout the motion.[77]

Ockham thinks this position will seem objectionable on many grounds, some of which are more telling than others. (3.2.1) First, insofar as it assumes the magnet to be an immediate cause of the force in the iron, it would seem to save (D) for locomotion at the expense of producing a counterexample to (D) for alteration. This would scarcely be helpful for anyone who held (D) to be universally true.[78]

Nevertheless, Ockham does not find this consideration decisive. For he thinks that the Commentator will easily reply that "the magnet alters the iron only because it alters the medium and the altered medium alters the iron" and that "the iron is only altered when the magnet is present, because the medium cannot remain altered unless a magnet is present."[79] And he adds that this claim cannot be easily disproved.[80]

77. Quoted in Maier, *Zwei Grundprobleme der scholastischen Naturphilosophie*, 175 and 172–73.

78. *Expos. Physicorum* VII, t.12, (OPh V).

79. *Ibid.*, t.12, fol.90vb, (OPh V).

80. *Ibid.*

In any event, this solution will avoid violating (D) for locomotion, only if it claims that the magnet is only a mediate cause and not an immediate partial cause of the locomotion of the iron; and hence only if it identifies the force (*virtus*) —together with any other universal causes whose activity is constant—as the immediate total cause of that motion. But Ockham thinks there are two arguments against assigning the force (*virtus*) inhering in the magnet such a causal role: (3.2.2) first, Ockham thinks that this account would violate another principle from Aristotle's natural philosophy: viz., that

(F) An inanimate object cannot be the total immediate cause of an object's moving with contrary motions.

The reason is that, as Aristotle says in *On Generation and Corruption*, the same is always apt to produce the same. To be sure, an inanimate object can sometimes be said to move an animal body in different ways. But this is because the animal has different appetites at different times, and the inanimate object is not the total immediate cause of the motion. Where one inanimate object acts upon another, however, it is impossible that the former be the immediate and total cause of the latter's moving up high on one occasion and the immediate and total cause of its moving down low at another. "But when a magnet is present, the iron sometimes moves up and sometimes down, depending upon whether the magnet is up or down." Ockham concludes that the inanimate, inherent force (*virtus*) cannot be the immediate total cause of the iron's motion.[81]

Franciscus de Marchia was, of course, aware that iron does not always move in the same way when it is attracted by a magnet, but sometimes moves up, sometimes down, and sometimes sideways, depending on the position of the magnet. For that reason he concluded that the force (*virtus*) produced by the mover in the moved object is "neutral and does not have a contrary, since it issues in motion with respect to every

81. *Expos. Physicorum* VII, t.10 fol.90ra, (OPh V).

position."[82] Ockham would retort, however, that if such a force (*virtus*) is genuinely neutral with respect to every position and equally present when the iron moves up and when it moves down then, by (F), it cannot be the immediate total cause of the iron's motion. Something else must be added to make its direction determinate.

The trouble with this reasoning from Ockham's point of view is that it could apparently be turned against his own position, to show that the magnet is not the immediate total cause of the motion of the iron either. Anticipating this, he writes,

> Suppose you say that the agent cannot move anything by contrary motions. But if the stone is high, it attracts the iron up high; if it is low, it attracts the iron down low, etc. Therefore, the stone cannot be the immediate source of the motion.[83]

Ockham responds that "this proposition—that an agent cannot by virtue of the same aspects, be the source of opposite motions—is false taken generally, as is clear from experience."[84] He has in mind the fact that voluntary agents can be the immediate and total cause of contrary motions. He agrees, however, that "a natural agent cannot naturally be the immediate cause of opposite motions by virtue of the same aspect,"[85] which is all his objector's argument really requires. Nevertheless in the *Expositio* VII, t.10, he concludes that

> this argument seems inadequate, since the same argument can be used to prove that the magnet is not a sufficient cause of the motion of the iron.[86]

Ockham seems to be correct in this diagnosis. We want to say that the fact that the iron moves up towards the magnet cannot be wholly explained in terms of the existence of the magnet and

82. Translated from Maier's quote, *Zwei Grundprobleme der scholastischen Naturphilosophie*, 171; cf. 170.
83. *Rep.* III, q.4, (OTh VI, 141).
84. *Ibid.*
85. *Ibid.*
86. Fol.90ra, (OPh V).

the iron. But this is not because it depends on the existence of anything else—apart from some constant universal causes—either. Rather it depends in addition on *how* the magnet and the iron exist: that they exist within a certain distance of one another, and that the magnet is located at a higher position than the iron is. If the word 'cause' is to range over whatever is involved in explaining some phenomenon, then we could agree that (F) is true and concede that neither the magnet nor the force (*virtus*) is the immediate total cause of the iron's motion. On the other hand, if we follow Ockham's usual practice of reserving the word 'cause' for the thing or things (*res*) involved in such as explanation, we should deny (F). For the same magnet located far away will not move the iron at all, but located close by will move it; located above the iron, will move it upwards; below the iron, downwards. Likewise, for Franciscus de Marchia's putative force. Ockham needs to be more careful in adapting his causal principles to his own ontological insights.

(3.2.3) Ockham has a second reason for thinking that such a force (*virtus*) produced in the iron could not be the immediate and total cause of the motion of the iron, however. For since the force (*virtus*) is something really distinct from the magnet, it would be logically possible for the force to continue to exist in the iron after the magnet was altogether destroyed. And if it did, then the iron would continue to move without the magnet attracting it—which is contrary to experience.[87]

This consideration does not seem any weightier than the first, however. For Franciscus de Marchia could reply that is is contrary to experience, simply because it is naturally impossible for the force to exist in the iron without the magnet existing, as was stated at the outset. But if the force were supernaturally preserved without the magnet, then the iron's motion would be supernaturally sustained thereby, as well.

Ockham would meet this attempted evasion with a question,

87. *Rep.* III, q.2, (OTh VI, 53); q.4, (OTh VI, 140); cf. *Expos. Physicorum* VII, t.10, (OPh V), where Ockham continues to regard this as a good argument.

however; viz., what renders the direction of the iron's motion determinate?

> ...if the magnet were destroyed by divine power, still the iron would be in motion by virtue of the power impressed upon it. Then I ask, to what part of the world [does it move?] Either up, or in a straight line, or side-ways, etc. Proof that it moves neither one way nor the other: for the force does not move [the iron] up unless the stone is turned up, and so on for the other different places. But when the stone is annihilated by divine power and the force is conserved in the iron, it is not turned up, etc...[88]

Ockham here adopts our suggestion that what naturally explains the direction of the iron's motion is the position of the magnet. If the magnet does not exist, it can have no position. The position of the force cannot determine the place to which the iron moves either, because the force inheres in the iron and is just as indifferently related to the various places as the iron itself is. But if nothing else determines the direction of the iron's motion, the iron cannot be in motion after all, since every motion is in one direction or another.

This objection of Ockham's suggests a different version of the force theory: viz., that it is some force in the magnet that causes the iron's motion. Anticipating this, Ockham responds that "the same argument proves that no force in the medium moves the iron, since if God destroyed the stone and conserved the force in the medium, it would not move [the iron] to a different place, since the iron cannot move anywhere unless the stone is there."[89] But this reply seems to beg the question. Why cannot an adherent of the force theory simply agree that in the natural course of things, the iron moves only to the place where the stone, is; but when the force is supernaturally preserved where the stone is, it acts alone to attract the iron there? The answer, of course, is that the force theory was invented in an effort to obviate violation of (D). From that point of view, there is no advantage to be gained by replacing the hypothesis that the

88. *Rep.* III, q.2, (OTh VI, 53).
89. *Ibid.*, (OTh VI, 53–54).

magnet or stone acts at a distance to cause the iron to move, with the contention that a force inhering in the magnet does this.

Yet another development of the force theory seems possible, however. Perhaps it could be said that the force in the magnet does not act at a distance to cause the iron to move, but rather acts immediately on the medium and sets off a chain reaction leading ultimately to the production of a force in the stone. In the natural course of things, this chain reaction is never started unless the magnet itself is present. But if God were to preserve the force of the magnet without the magnet, the force could still act by itself to set this chain reaction going; and the location of this force would determine the direction of the iron's motion.

Although Ockham does not explicitly consider this suggestion, he may have something like it in mind when he comments in an obscure paragraph that "even if force were assumed [to exist] in the medium...[the stone] does not cause an effect of the same kind in the medium and on the distant object," because "the stone moves the iron and it does not move itself or the medium."[90] Ockham may here be questioning just what sorts of effects the magnet is supposed to be producing in the medium and the distant object respectively? If the effects were of the same kind, perhaps the manner of their production would be clear enough. But they are not of the same kind: for whatever is produced in the iron causes the iron to move; but what exists in the medium or the magnet does not cause it to move. And if their effects are of different kinds, further explanation of what they are and how they are produced must be forthcoming.

Ockham thinks that by far the least problematic conclusion is that "the magnet is the immediate total cause of that motion in the way that a secondary cause or creature is a total cause"[91] and he defends this conclusion by appealing to his criterion of what a cause is. For $x$ is, properly speaking, the immediate cause of motion, if and only if (i) when $x$ is present, other things being

90. *Rep.* II, q.18 E; cf. III, q.2, (OTh VI, 55).
91. *Ibid.* III, q.4, (OTh VI, 140); cf. q.2, (OTh VI, 53).

equal, the thing moves, and (ii) when $x$ is absent, the thing does not move no matter what else is present. But in the natural course of things, when a magnet is present, the iron is attracted to it; and when a magnet is absent, no matter what else is present the iron does not move in that way. Therefore, he concludes, "the magnet is, properly, what moves the iron."[92] As for (D), Ockham maintains that "it is not universally true that the mover and moved object are together (*simul*) according to mathematical contact";[93] that is, they do not need to be physically touching, or even to be in the same place the way a substance and its quality or several qualities of the same substance are in the same place. Ockham suggests that (D) could be replaced with the claim that

(G) "The virtual togetherness (*simultas*)" of mover and moved object "is required,"

where the mover $x$ is virtually together with the moved object $y$, if and only if (i) $x$ is as spatially proximate to $y$ as $x$ needs to be to move $y$, and (ii) there is no obstacle that makes $x$ unable to act or $y$ unable to be acted upon on this occasion. A magnet in Rome is not virtually together with a piece of iron in London, because the latter lies outside the causal reach of the former; but a magnet one inch away from iron filings on a table top is virtually together with them, even though it is not in mathematical contact with them.[94] Even if (D) were replaced with (G), however, Ockham perceives, a doubt would remain "about how the mover and moved object are together in projectile motion." For if, in the natural course of things, the iron does not continue to move when the magnet has been destroyed, "the projector is not always together"—whether virtually or ac-

92. *Expos. Physicorum* VII, t.10, fol.90ra, (OPh V).

93. *Rep.* III, q.2, (OTh VI, 64).

94. Cf. *Expos. Physicorum* VII, t.10, (OPh V), where this suggestion is attributed to an unnamed "they". And Ockham goes out of his way not to reject this alternative explicitly, when he comments that "it would not be necessary to assume" any quality produced by the magnet if "such virtual contact were enough" (fol.90ra).

cording to mathematical contact—"with the projectile, since the projector can be annihilated while the motion exists."[95] It is to this problem case that we must now turn.

(3.3) *Projectile Motion.* When I throw a rock, my hand is touching the rock at the beginning of the motion and so, even by (D), is in a position to cause the rock to begin to move. But once the rock has separated from my hand, they are no longer "in mathematical contact" and we cannot even say that they remain virtually together, since the rock might continue to move after my hand has been completely destroyed, say, by an exploding grenade. But by (C), there must be a cause of the projectile's continued motion. What can it be?

(3.3.1) *Aristotle's Theory.* According to the Commentator, Aristotle's solution is to say that after the first instant, it is the air that keeps the projectile in motion. Air of itself has a natural motion upwards. The thought is that when the hand moves the rock, it also moves the particles of air, so that they either move towards their natural places faster than they naturally would, or they move towards some other place. Thus impelled, these particles bump into other particles and alter their motions and also bump into the rock and push it along. Hence, it is parts of the air moved by a combination of natural and violent motions that continue the rock in locomotion after it is separated from the first projector.

(R3.3.1) In the *Reportatio*, Ockham rejects this account as altogether unacceptable by means of the following example. Suppose that two arrows are shot into the air from opposite directions in such a way that they meet in mid-air and obstruct one another's flights. If it is the air that moves the arrows, then when they meet, the same air will have to be moving the one arrow, say, north and the other arrow south, and so the same air will have itself to be moving north and south simultaneously—which is impossible.[96]

The latter argument is dropped from consideration in the *Expositio*, however, where Ockham is focused on expounding

95. *Rep.* III, q.2, (OTh VI, 64).
96. III, q.2, (OTh VI, 66); q.4, (OTh VI, 142).

Aristotle, and in any case seems to be of dubious value. For, as Ockham himself remarks, "the air is easily divisible into many parts," which may move with different motions.[97] Aristotle would doubtless maintain that the two arrows are moved by different parts of the air at the beginning of their motions; and he could plausibly make the same claim even at the point at which the tips of the two arrows are touching.

(3.3.2) *The Force Theory.* If Ockham's objection does not seem telling, nevertheless, another appears on the horizon. For if (D) is true, then the motion of the hand might explain why both the rock and the air begin to move but it cannot explain why either continues in motion. Within the Aristotelian framework, the most plausible account of the air's continued motion is that the hand produces some force in the air, and this force causes it to continue to move. But if the first projector could produce a force in the air, why not suppose that it produces the force directly in the projectile itself? This was the theory of Franciscus de Marchia, who held that the first projector produces a force (*virtus*) in the projectile, and the latter force is the immediate proximate cause of the projectile's continued motion.[98] Further, the length of the continued motion depends upon the intensity of the force thus produced.[99] John Buridan's later and famous Impetus theory represents a still more sophisticated verion of this position.[100]

Ockham brings up the force theory of continued projectile motion, only to reject it on the ground that he cannot think what the cause of such a force in the projectile could be. The

97. VII, t.10, fol.90rb, (OPh V).

98. *Commentary on the Sentences* IV, q.1 draws this conclusion and even attributes it to Aristotle; this is quoted in Maier, *Zwei Grundprobleme der scholastischen Naturphilosophie*, 168.

99. *Ibid.*, 172–73. A similar theory was held by Peter Olivi in Borghese ms. no.322 (cf. Maier, *Zwischen Philosophie und Mechanik*, chap.6, 291–92, 269). But Maier thinks it likely that Ockham has Franciscus de Marchia in mind when he considers the theory in *Reportatio* III, q.4 (cf. *Zwischen Philosophie und Mechanik*, 325; "Zu einigen Problemen der Ockham-forschung," *Ausgehendes Mittelalter* I, 180).

100. *Zwischen Philosophie und Mechanik*, chap.7, 356–363.

answer to this question seems obvious, however, and explicitly given in Franciscus de Marchia's statement of his theory: when I throw a rock, it is my moving hand that imparts the force to the rock. But Ockham charges that this explanation runs counter to standard principles of Aristotelian natural philosophy. That no absolute or relative thing or things (*res*) in the hand is or are the immediate and total cause of the force in the rock is clear, given

(E) A natural agent equally close to two patients that are equally disposed produces the same effect in both.

For if my hand moves slowly towards the rock, the absolute or relative thing or things in it will be brought just as close to the rock as if it moved towards the rock at a higher speed. Thus, by (E), they will be the total and immediate cause of exactly the same effects in the one case as in the other. But where the rock is big enough, my slowly moving hand may produce neither motion nor the means of continued motion in the rock. Consequently, my quickly moving hand cannot be the immediate and total cause of such effects either. Hence, in neither case can the absolute and/or relative things in my hand be the total and immediate cause of such a force in the rock. Further, Ockham denies that the varying speeds of the motion can make any difference. For he contends that

(H) Locomotion contributes nothing towards an effect but the bringing of the agents closer to the patients.

And a slow motion of the hand will do that just as effectively as a fast one. Hence, he concludes that the first projector cannot be the total and immediate cause of any such force (*virtus*) in the rock.

Once again, the putative principles from Aristotelian natural philosophy seem too strong from Ockham's point of view. For (E) and (H) could combine to show that my moving hand could not cause the rock to *begin* to move either; yet Ockham shares with his opponents the conviction that it does. In any event it is (H) that seems objectionable. Just as we want to say that it is the

position of the magnet that determines whether the iron is moved up or down, so might we not maintain that it is differences in *how* the hand is moving that accounts for its ability to move the rock in the one case and not in the other?

(3.3.3) *Ockham's Opinion.* It is widely assumed that Ockham dealt with the problem of projectile motion by denying any cause of continued motion to the projectile. And commentators have drawn different, far reaching conclusions regarding Ockham's role in the history of science. Pierre Duhem optimistically sees Ockham's putative admission of the possibility of unçaused motion as an anticipation of the principle of inertia, Newton's first law of motion: that a body will continue in a state of rest or in motion in a straight line at a constant velocity unless compelled by an external force to do otherwise.[101] By contrast, the pessimists take Ockham to be reasoning that since locomotion is not a thing (*res*) distinct from permanent things, it cannot have a cause. And they represent Ockham as concluding that the search for causes of locomotion, a principle task of medieval physics, was pointless.[102] Both groups rest their

101. Thus, Pierre Duhem writes, "Le mouvement local n'étant plus la continuelle innovation d'un effet réel, l'incessante mise an acte de quelque chose, ce mouvement peut se pursuivre sans qu'aucune cause efficiente, aucun moteur soit requis pour en assurer la contination.

Qu'est-ce que cette affirmation? C'est au lieu du principe fondamental de la Dynamique peripateticienne, la pensée essentielle de ce qui sera le principe fondamental de la Dynamique moderne, la loi de l'inertie" (*Le Système du Monde*, (Paris, 1913–1959), Tome VIII, chap.x, 196).

102. Thus, James A. Weisheipl, O.P., writes that for Ockham "the term 'motion' designates no reality other than an individual body negatively described as not being at rest. From this Ockham concluded that the search for a 'cause of motion' is entirely superfluous, since motion is nothing over and above the physical body" (*The Development of Physical Theory in the Middle Ages*, (London, 1959), 68). And he goes on to say that "...Parisian masters like John Buridan, would not have proposed a new theory of 'impetus' to explain projectile motion, had they considered motion a fiction needing no causal explanation" (*ibid.*, 69) and to suggest that for nominalists like Ockham motion is not "objective" (*ibid.*, 68). And William A. Wallace, having noted that for Ockham "motion cannot be an absolute entity distinct from the body in motion" (*Causality and Scientific Explanation. Volume I:*

allegations on a single text, *Reportatio* III, q.4, (OTh VI, 142–44). I shall argue that there are strong reasons against both views and that this passsage cannot possibly bear the weight of these generalizations.

The optimistic interpretation has already come under the critical review of more recent historians of science. For while some have urged that Ockham in asserting the possibility of motion under the action of no motive power (contrary to (C) above), took a necessary step in the direction of arriving at the principle of inertia,[103] others have tended to emphasize the wide disparity between Ockham's remarks and the Newtonian achievement. William Wallace notes that "Ockham had no intention of restricting himself to uniform motion in a straight line."[104] Indeed, Ockham's remarks occur in the context of his discussion of projectile motion, which is approximately parabolic and continually decelerated. Nor does Ockham say that the projectile would continue to move through the air forever unless compelled by external forces to do otherwise, although had he elaborated the matter he would doubtless have

*Medieval and Early Classical Science*, (Ann Arbor, 1972), 55), comments that "as he saw it, there was no need to seek the cause of *any* motion, whether uniform or accelerated, since it was not the type of entity to require a cause" (*ibid.*, 55). Again, Wallace states that "Ockham had effectively denied the reality of the motion and any causality involved in its production" (*ibid.*, 57), and goes on to suggest that the ontological disagreements between Bradwardine and Ockham on this point would have led Ockham to regard Bradwardine's project of giving mathematical formulation to the relations between velocity, motive power, and resistance as "meaningless" (*ibid.*, 58). More cautiously, A. C. Crombie writes, "Every new effect required a cause, but motion was not a new effect, since it was nothing except that the body existed successively in different places. Ockham therefore rejected all three current explanations of the cause of projectile motion..." (*Medieval and Early Modern Science*, (New York, 1959), vol.2, 63).

103. For example, Ernest A. Moody in his "Ockham and Aegidius of Rome" (repr. in *Studies in Medieval Philosophy, Science, and Logic: Collected Papers, 1933–1969*, 161–188, especially 184) and "Galileo and Avempace" (repr. in *ibid.*, 203–286, especially 260–61, 264); and A. C. Crombie, *Medieval and Early Modern Science*, vol.2, 64–65.

104. Wallace, *op. cit.*, 55.

assigned the resistance of the medium and the body's natural tendency to downward motion roles in bringing the projectile to a halt. More importantly, Anneliese Maier makes the sound observation that there is a world of difference between a philosopher's dropping a remark that entails some of the consequences that follow from the principle of inertia, and his proposing a principle of inertia as part of an integrated theory of motion. But Ockham's focus in both *Reportatio* III, q.4 and q.2 is on rescuing his account of action at a distance. He does not examine the phenomenon of continued motion in a general way, or at any length, much less develop a comprehensive theory of motion based in part on the principle of inertia.[105]

If the pessimistic interpretation were correct—i.e., if Ockham really thought that his ontological thesis that motion is not a thing (*res*) really distinct from permanent things entailed

(J) Locomotions do not have efficient causes,

and thereby rendered the search for causes pointless—one would expect him to raise this issue whenever the causes of locomotion came under discussion. Further, since Ockham maintained that Aristotle agreed with him regarding the ontological status of locomotion, one would expect his *Physics*-commentaries to say that Aristotle, properly understood, abandoned—or at least should have abandoned—the search for such causes. A sample from hosts of available texts will be enough to show how Ockham not only disappoints but contradicts these expectations.

(a) To begin with, as we have seen, Ockham's remarks about projectile motion occur in passages in which he is dealing with apparent counterexamples to Aristotle's thesis that there is no action at a spatial or temporal distance. But so far from denying that the locomotion of the iron towards the magnet has any efficient cause, Ockham makes the different, almost equally controversial move of identifying its efficient cause with the

105. *Zwei Grundprobleme der scholastischen Naturphilosophie*, chap.4, 159–160; cf. *Zwischen Philosophie und Mechanik*, chap.7, 375.

magnet and maintaining that the magnet acts at a spatial distance, contrary to (D) (see section (3.2) above)! Again, if the fact that locomotion is not a distinct thing (*res*) is enough to make the search for a cause of its continuation superfluous, it should render inquiries into the cause of its beginning futile as well. But Ockham nowhere disputes whether the beginning of projectile motion has an efficient cause; that it does, he finds obvious.

(b) William Wallace expects that Ockham would find attempts to determine the relationships among velocity, motive power, and resistance "meaningless."[106] Yet, in *Expositio in libros Physicorum*, Book IV, t.71, Ockham enters into the controversy and adopts a compromise position. He agrees with Avempace on the possibility of motion at a finite velocity through a vacuum and explains with Aquinas that the impossibility of a body's being in two places at once is enough to make locomotion take time. But he maintains with Averroes that where there is a medium, the velocity is inversely proportional to the resistance it offers.[107]

(c) Again, as we have seen, in his *Expositio in libros Physicorum*, Book VII, Ockham cites cases of self-motion as counterexamples to

(B) Everything that is in motion is moved by another,

but makes no protest at all against

(A) Everything that is in motion must be moved by something,

which is plainly inconsistent with (J). And his critique of (B) in

106. *Op. cit.*, 58.

107. Cf. *Quaest. Physicorum* q.89–90. For a quotation of the relevant texts and an extended discussion of the significance of Ockham's remarks, see E. A. Moody, "Ockham and Aegidius of Rome" (at 165–184) and "Galileo and Avempace" (at 225–273). For a critique of Moody's interpretation, see Anneliese Maier, *Zwischen Philosophie und Mechanik*, chap.5, "Platonische Einflusse in der scholastischen Mechanik?", 237–286.

the same section rules out any attempt to explain this acquiescence in (A) as the reticence befitting a commentator.

(d) In *Expositio in libros Physicorum*, Book VII, t.10, where Ockham is discussing objections to Averroes' solution to the problem of "magnetic attraction", Ockham offers the same sort of criterion for picking out efficient causes of motion as he does for immediate efficient causes generally (see chapter 18 above):

> For something is a mover, properly speaking, if the moveable object cannot be moved without it, no matter what else is posited; just as something is an immediate cause, properly speaking, if the thing (*res*) cannot be caused to exist without it, no matter what else is posited. For there seems to be no other way or proving that anything is a mover or a cause of another.[108]

And it is by applying this criterion that Ockham concludes in the same passage that the magnet is the total efficient cause of the iron moving. True, Ockham closes the whole section with a disclaimer—that "whether or not these arguments establish their conclusion will be clear elsewhere. But they are brought up here to stimulate the students."[109] But it is doubtful whether this neutrality was supposed to extend to the above analogy between causes of motion and causes of things (*res*). For these criteria for identifying efficient causes of things and motions are not paraphrases of Aristotle's text; nor are they traditionally incorporated into *Physics*-commentaries: neither Aquinas nor Giles of Rome nor Walter Burleigh makes any use of them. They seem rather to be part of Ockham's own material.

(e) Further, in *Expositio in libros Physicorum*, Book VII, t.12, where Ockham has argued that condensation and rarefaction do not involve the introduction of any new things distinct from what is condensed or rarified but are effected entirely by locomotion (see Part One, chapter 6 above), he remarks that

> an efficient cause is not always so-called because it effects a thing (*res*) that did not exist earlier, but because it makes a thing that existed

108. Fol.90ra–rb, (OPh V).
109. *Ibid.*, fol.90rb, (OPh V).

before to be somewhere where it was not immediately before...[110]

The text of the *Summulae Physicorum* makes the same point more systematically:

> ...Notice, however, that 'efficient cause' is taken three ways—strictly, broadly, and very broadly. (i) Strictly, something is called an efficient cause when it causes a thing (*res*) that exists for the first time, in such a way that nothing pertaining to that thing existed before. For example, fire produces fire, and sun produces heat; for in these causes a substantial and an accidental form exist for the first time. (ii) Broadly, something is called an efficient cause, which makes something to be of a different sort than before, whether by producing a new thing (*res*), or by joining a previously existing part, or by taking away parts, or by changing it in other similar ways. This way a builder is a cause of a house, because he merely puts together the parts of the house. But no new whole thing (*res*) in itself is acquired, even though 'This house exists' is true now and was not true before. (iii) Very broadly 'efficient cause' is taken for every mover, whether the mover makes one from many or produces a different shape than before by changing parts or taking them away, or even merely changes the place of the thing. Thus, we say that an intelligence is an efficient cause of the motion of the sky—that is, it moves the sky but it does not cause any new thing (*res*) to exist in the sky, as will be shown later. And the intelligence is called an efficient cause for no other reason than that it is a mover.[111]

This extension of the label 'efficient cause' beyond those that produce new things (*res*) is not surprising in view of our discussion of Ockham's ontological program (in Part One, chapters 5 and 9 above). For Ockham admits that a proposition cannot be first true and then false, or vice versa, apart from any and every change but rejects his opponents' insistence that the change be a change in which things (*res*) exist. In Ockham's view, the difference between 'This air is dense' or 'Socrates is standing three feet away from Plato' being true and its being false is not one of which things exist, but of how they exist (see Part One, chapters 6 and 7 above). Such changes are produced without the generation or corruption of any thing, merely by moving the things

110. Fol.91ra, (OPh V).
111. II, c.3, 35, (OPh VI).

that already existed—e.g., the parts of air, Socrates and/or Plato—to different places. Nevertheless, the fact that this air is dense or that Socrates is standing three feet away from Plato does not fail to be "objective" in the sense of being mind-independent because quantity or relations are not things distinct from substances and qualities. Since such changes in how things are seem to have efficient causes, it would be natural for Ockham to extend the scope of 'efficient cause' in the way the above quoted texts do.

With all of this textual evidence to the contrary, how does the pessimistic interpretation of Ockham's role in the history of science ever get off the ground? It does, because its advocates ignore the above passages and focus exclusively on *Reportatio* III, q.4, where Ockham explains his own solution to the problem of projectile motion. He writes,

> Therefore, I maintain that in such motion after the moveable object has been separated from the projector, the mover is the moved object itself (*secundum se*), and [it is] not [moved] by any absolute or relative force in it. Thus, the mover and the moved object are altogether indistinct.
>
> Suppose you say that a new effect has a cause. But locomotion is a new effect.
>
> I reply that locomotion is not a new absolute or relative effect, and this [is so] where it is denied that place (*ubi*) [is anything]. For it is only for the moveable object to exist together with any one while two contradictories are verified. Thus, although each part of space that the moveable object passes through is new with respect to the moveable object's passing through it, insofar as the moveable object is passing through these parts now and did not earlier; nevertheless, the part is not absolutely new, as was said...[112]

The pessimists concentrate on the last two paragraphs of this passage. When the objector protests "a new effect has a cause. But locomotion is a new effect," Ockham assumes that the premiss "every new effect has a cause' means 'Every new thing (*res*) has a cause', and observes that where 'new effect' is taken

112. Translated from *Ockham: Philosophcial Writings*, ed. Philotheus Buehner, (Edinburgh and London, 1962), 140.

to mean 'new thing (*res*)' in the second premiss, the claim is false. The pessimistic conclusion is that since Ockham does not go on to specify any cause of continued projectile motion, he is tacitly assuming that because motion is not a new thing (*res*),

(J) Locomotions do not have efficient causes.

And the pessimists simply make no effort to reconcile their interpretation with Ockham's interest, documented in (a)–(e) above, in identifying efficient causes of locomotions.

In her book *Zwischen Philosophie und Mechanik*, Anneliese Maier assumes this task. She, too, reads Ockham in *Reportatio* III, q.4 as implying that continued projectile motion (*motus*) has no cause. And like the pessimists, she thinks this reflects no insight into mechanics, but only a consequence of Ockham's ontological position. Nevertheless, she does not feel thereby forced to their pessimistic estimate of Ockham's role in the history of science. For she distinguishes sharply between two questions:

(K) Does the continued motion (*motus*) of the projectile have a cause?

and

(L) Does the fact the projectile is continuing to move (*moveri*) have a cause?

She understands Ockham's reply to the objector (in the third paragraph quoted above) to be giving a negative answer to (K) on the ontological ground that since motion (*motus*) is not a thing really distinct from substance and quality, it does not require a cause. To anticipate the principle of inertia or to abandon the study of physics, however, Ockham would have to be giving a negative answer to (L) as well, which he does not do in this passage, because he does not even raise the issue here.[113]

113. Chap.6, 327: "Für Ockham ist die lokale Bewegung nichts Positives,

And a look at passages such as (a)–(e) shows, on the contrary, that Ockham wished to answer (L) in the affirmative.

I think that Maier is mistaken here when she understands Ockham to be distinguishing sharply between (K) and (L) the way she does. It is true that Ockham insists that 'motion' is not an absolute term, because there is nothing really distinct from substance and quality for it to signify. But having argued this, he goes on to assign the abstract noun the function of abbreviating longer expressions containing verbs, adverbs, and the like. In fact, Ockham explains this very abbreviating function in his reply to the objector in *Reportatio* III, q.4:

> locomotion is not a new absolute or relative effect... For it is only for the moveable object to exist together with different parts of space in such a way that it does not exist together with any one while two contradictories are verified...

If Ockham understands 'locomotion' this way here, he would not see (K) and (L) as distinct questions, but would take (K) as shorthand for (L).

The real meaning of the passage is as straightforward as it is coherent. In the first paragraph of the passage, Ockham does not deny that projectile motion has a cause. Rather he says that "the mover is the moved object itself (*secundum se*)" and that "the mover and the moved object are altogether indistinct":

weder in absolutem noch in respektivem Sinn—nichts was sich von den entia permanentia unterscheidet—, und ein solches 'Nichts' erfordert kein Ursache... Er zieht mit diesem Satz die letzte, extremste Konsequenze aus seinem Bewegungsbegriff. Es folgt die Erlauterung, inwiefern die lokale Bewegung—und Zwar ganz allgemein verstanden, nicht nur der motus proiectionis—nicht als neu entstandene 'Wirkung' anzusehen ist, die eine Ursache erfordert..." And again, *ibid*, 327–28, "Der *Motus* erfordert keine bewegende Kraft als Ursache, denn er ist nichts 'Positives', aber das *moveri* erfordert sie. Und was ist das *movens* im Fall der Projections Bewegung? Was ist die Ursache für jenes *transire* des mobile durch den Raum, da eine immer neue Beziehung zu seinen Teilen herstellt? Diese Frage bleibt einfach offen. Man kann nicht sagen, dass Ockham sie mit einer mehr oder weniger impliziten Formulierung des Tragheitsprinzips beantwortet hat: er hat sie überhaupt nicht beantwortet, denn er hat sie gar nicht gestellt."

that is, continued projectile motion does have a cause and the cause is the projectile itself. This is to add continued projectile motion to the above mentioned cases of self-motion and so to regard it as a counterexample to (B), but not to (C) and (A). The difference is that whereas there is a real distinction between a created will and its volition and between the air and the heat or coldness that inheres in it and between the matter and the substantial form of a heavy body, the mover and moved object in continued projectile motion are—contrary to the force theory—"altogether indistinct."

In the second paragraph, the objector challenges Ockham's hypothesis of self-caused motion, on the ground that a new thing (*res*) cannot bring itself into existence.

In the third paragraph, Ockham responds that locomotion is not a new thing (*res*), but for a permanent thing (in this case, the projectile) to be in one place after another successively; the challenger has offered no obstacle to the projectile's causing itself to exist first somewhere and then elsewhere.

# 20

# On Time

In the seventeenth century, Isaac Newton maintained that absolute space and time were containers really distinct from the finite things contained in them. But he acknowledged that as such they did not fit into the traditional Aristotelian categories of substance or inherent accident. They are not substances, because they do not exist *per se* but are infinite consequences of divine existence, and because they are neither subjects of inherence nor causes of change. Neither do they inhere in substances; rather substances and accidents exist in them. According to Newton, they resemble substances more than accidents, but strictly speaking they are neither. The Cambridge Platonist Ralph Cudworth criticized the similar position of Pierre Gassendi, however, on the ground that it posited an intermediate ontological status in between substance and accident.[1]

Placed against their medieval background, these developments are scarcely surprising. For medievals, such a middle ground as Newton and Gassendi had envisioned was unthinkable. Ockham's predecessors and contemporaries felt compelled to assign space and time an ontological status within the Aristotelian framework, usually in the accidental categories of Where (place) and When (time). If time and/or instants of time are really existent Aristotelian accidents, however, it is necessary to identify for them a natural subject of inherence. Ockham argues that no such subjects of inherence are available; and, sharing most of his opponents' conviction that neither time nor instants of time can be Aristotelian substances, he con-

1. J. E. McGuire, "Existence, Actuality, and Necessity: Newton on Space and Time," *Annals of Science* XXXV (1978): 463–508.

cludes that neither is anything really distinct from permanent things. So long as one is limited to the Aristotelian categories, Ockham thinks, the notion of time as a distinct thing is absurd.

Medieval attempts to find an ontological niche for time (as opposed to space) were preoccupied with a further problem: viz., its fleeting or successive character. In Book XI of the *Confessions*, Augustine writes, "What is time?...If no one asks me, I know. But if I want to explain it to someone who raises the question, I don't know..." And he goes on to explain what puzzles him: the past is now no longer, the future is not yet, and the present merely tends to nonexistence. After much discussion, he concludes that the whole of time can have existence only in the mind that remembers and anticipates. More than half a millenium before, Aristotle had pondered the same question. In Book IV, chapter 10 of the *Physics*, he admits that "certain arguments may lead us to suspect that time is a nonentity or is at least shadowy and indistinct." For as continuous, time has only divisibles as parts. But the past has come and gone, while the future is yet to come. Aristotle argues further that while time cannot be identified with motion, it nevertheless has something to do with motion; and he concludes by defining time as the number of motion with respect to before and after. These two texts form the classical background of thirteenth and fourteenth century discussions of time. Scholastics realized, however, that motion and time are alike successives, so that the former will have whatever ontological status is accorded to the latter. Yet, the reality of motion was axiomatic in Aristotelian physics. And in 1277, Stephen Tempier declared that the extreme Augustinian thesis—that time is nothing in reality but exists only in the mind's apprehension of it—to be theologically unacceptable as well.[2] Ockham rejects all attempts to identify an ontological category of successive as opposed to permanent things (*res*), however. His own positive position rejects time as an important piece of ontological furniture and concentrates on its epistemological significance as a cosmic clock relative to which duration

2. Anneliese Maier, "Das Zeitproblem," *Metaphysische Hintergründe der spätscholastischen Naturphilosophie*, (Rome, 1955), 51–52.

can be measured.

The first two sections of what follows will be devoted to Ockham's critique of the view that time or instants of time are really distinct from permanent things; the third to Ockham's own account of what time is.

## 1. THE ONTOLOGICAL STATUS OF TIME

Like lines, surfaces, and bodies, time and motion are continuous. But instead of rehearsing here the general difficulties he sees in regarding continuous quantities as things really distinct from substances and qualities, Ockham follows the lead of Aristotle and Augustine and focuses on the special problems that arise because time, like motion, is successive. Ockham offers two sorts of arguments that since time is successive, it cannot, of itself, be any one thing (*res*) really distinct from permanent things. (1.1) Ockham thinks that Aristotle intended his opening arguments in Book IV, chapter 10 of the *Physics* to establish just such a conclusion.

(1.1.1) (a) What is composed of non-beings, is not.

(b) Time is composed of the past, which is not although it was, and the future which is not yet although it will be.

(c) Therefore, time is a non-being. (a and b)

(1.1.2) (d) Every divisible existent has some or all of its parts existing.

(e) If time is a divisible thing, then some or all of its parts exists.

(f) Time is composed of past and future.

(g) Neither the past nor the future exists.

(h) Therefore, neither some nor all of the parts of time exist. (f and g)

(j) Therefore, time is not an extant divisible thing. (d and h)

(1.1.3) (k) Only the now of time exists.

(l) Now is not a part of time.

(m) Therefore, no part of time exists.[3]

Behind these arguments is the assumption that time is a continuum that is divided into past and future by the present instant, the way a point is imagined to bisect a line at its midpoint. Now is no more a part of time—viz., (l)—than a point is part of a line; time is no more made up of instants than a line would be made up of points. Rather, as continuous, time is composed only of divisible parts—hence, (b) and (f). In (d), Aristotle says that for a whole to exist at least *some* of its parts must exist; Ockham thinks that a thing exists only if *all* of its parts exist.[4] This disagreement makes no difference in the case at hand, however, since it seems that none of the parts of time exist. As Ockham says, if time were supposed to be a distinct thing, it would have to be admitted that the past and future times are pure nothing (*purum nihil*).[5] And from this it seems to follow that the whole of time cannot be anything after all.

(1.2) Those who wished to say that time is a thing distinct from permanent things would have identified it, not with a substance, but with an accident. But every absolute accident that has parts distinct from permanent things inheres in something as its subject. And Ockham contends, given that time is successive, no acceptable account can be given of the manner

3. *Expos. Physicorum* IV, t.89, (OPh V); *Summulae Physicorum* IV c.5, 89, (OPh VI); *Quaest. Physicorum*, q.38, (OPh VI); cf. *Rep.* II, q.10, (OTh V, 187).

4. *Expos. Physicorum* IV, t.89, (OPh V).

5. *Rep.* II, q.10, (OTh V, 186–87, 217–18).

in which it inheres in its subject. For if time were such an accident, it would inhere either in an incorporeal or in a corporeal substance as its subject. Ockham suggests that it would inhere in the whole sphere of the heavens with whose motion time is associated.[6] But there are two ways in which an accident may inhere in its subject: either it will be whole in the whole subject and whole in each part or it will be whole in the whole subject and part in each part. Not the latter way, Ockham says, since there would be no more reason why one part of time should exist in one part of the heavenly sphere and another in another than the other way around. Not the first way, because then two accidents of the same kind—e.g., the past and the future—would exist in the same first subject at once. And either way the absurdity would follow that the whole of time exists at once—which is logically impossible.[7]

Ockham is able to derive these absurdities—viz., that there would be no more reason why one part of time should exist in one part of the subject rather than in another part, and that all of the parts of time exist at once—only because he assumes that the subject of inherence will be a permanent thing itself. But some of Ockham's opponents held that it is not the heavens, but the motion of the heavens that is the subject of time.[8] For example, Ockham's older contemporary Walter Burleigh maintained that just as the inherence of continuous quantity extends matter in space, so the inherence of time in motion extends it in time.[9] The whole of time exists in the whole of motion and part in the parts; in particular, the earlier parts of time in the earlier parts of motion and the later in the later parts of motion.

This answer presupposes, however, that motion is something

6. *Summulae Physicorum* IV, c.2, 86, (OPh VI); cf. *Quaest. Physicorum*, q.37, (OPh VI).

7. *Rep.* II, q.10, (OTh V, 185–86); *Summulae Physicorum* IV, c.2, 86–87, (OPh VI); *Quaest. Physicorum*, q.37, (OPh VI).

8. *Summulae Physicorum* IV, c.2, 87, (OPh VI); cf. *Rep.* II, q.10, (OTh V, 198).

9. *Expositio librorum Physicorum* IV, tractatus III, c.2 (Venice 1482, 1491), quoted in Maier, *op. cit.*, 87–88.

really distinct from and inhering in the heavenly spheres. But in Ockham's view, no adequate account could be given of the inherence of that successive in the heavenly spheres either. And in any event, he thinks he has shown that motion is no such thing distinct from and inhering in permanent things.[10]

(R1.1–1.2) Ockham's opponents found these arguments far from conclusive, however, and some of them appealed to the continuity of motion and time to salvage the reality of both successives. In *Quodlibeta* III, q.11, Henry of Ghent argues that it would be "contrary to the clear judgment of undeceived sense" to deny that there is any real, mind-independent motion. But if so, then the present, too, must have some mind-independent existence. Yet, if the present is that through which the past is continuous with the future the way a line is continuous through its midpoint, cannot the whole of time "borrow" some existence from the present instant? Thus, past and future will not be "pure nothing," as Ockham understands in (b) and (g), but will have some real mind-independent existence by virtue of being continuous through the present instant, which has a real, mind-independent existence.[11] Henry explains that either motion or time can be considered in three ways: (i) First, each can be viewed insofar as it is a continuum in which its flux does not stop. This way it exists in reality independently of the mind. (ii) Second, motion or time may be considered insofar as its parts are discrete or distinct from one another. This way, neither motion nor time exists in reality, but only in the mind that distinguishes before and after in the succession. (iii) Third, insofar as it is continuous in reality with what exists now and insofar as it is distinct with respect to its earlier and later parts. This way, it exists partly outside the mind and partly in the mind.[12] Since time is the number of motion only insofar as its later parts are distinguished, Henry says that time has its formal existence only in the mind; but it has its quasi-material existence

10. *Summulae Physicorum* IV, c.2, 87, (OPh VI); cf. Part Four, chapter 19, above.

11. (Venice, 1613, fol.102vb–103ra).

12. Fol.103rb.

as a continuous flux independently of the mind.[13]

Henry's contemporary, Giles of Rome, writes in a similar vein that successives are said to exist in a different way from permanent things. For a permanent thing can be said to exist, only if all of its parts exist. But a successive thing does not exist because all of its parts exist, but rather because its parts exhibit a certain order. Thus, the existence of time is assured by the fact that the parts of time bear a certain order to the now of time, which is the beginning of one part of time and the end of the other.[14] Likewise, Vitalis de Furno contends that "even if the parts [of time] are non-beings, nevertheless, they have enough being (*sufficientem entitatem*) by virtue of their continuity with and conjunction to the present instant, which is a genuine actual being in extramental reality. And neither the parts of the successive continuum, nor the whole itself, requires any other mode of being..."[15] John Baconthorpe agrees that successives do not have any mind-independent existence in themselves, since only the present instant has such existence. But Baconthorpe goes on to affirm not only that "the mind-independent instant really continues the parts of time," but also—contrary to Henry of Ghent—that it "makes them really and actually distinct."[16] Thus, they would reject Aristotle's first two arguments (1.1.1) and (1.1.2), on the ground that (a) is false when construed as 'What is composed of parts that do not exist in themselves, is not', while (d) is false if it means 'Every divisible existent has some or all of its parts existing in themselves'. Likewise, (1.1.3) proves at most that no part of time exists in itself, but this does not show that time does not exist at all.

Again, John Canonicus writes that

> permanent and successive things have their existence in different ways. Permanent things require for their real existence that all their parts real-

13. Fol.103vb–104ra.

14. *Commentarium in VIII libros Physicorum Aristotelis* IV, lectio 18, (Padua, 1493, fol.709rb).

15. *Quaestiones de rerum principio*, q.18, quoted in Maier, *op. cit.*, 55.

16. *Sent.* II, d.2, q.1, a.4, (Venice, 1529; Cremona, 1618), quoted in Maier, *op. cit.*, 55–56.

> ly exist at once, but successive things do not. Rather it is enough if only their parts are joined to something indivisible, and they have their existence by connection to that. For they do not require that all of their parts exist at once...

Thus,

> although instant is neither time nor part of time, time is said to exist in act through the actual existence of the instant. Hence, for time to exist in act it is necessary only that something indivisible that continues the earlier part with the later exist in act.[17]

Accordingly, Canonicus would have charged that (a) and (d) simply beg the question against a category of successive things, whereas (m), the conclusion of (1.1.3), is irrelevant to the question of whether the whole of time exists in act.

(RRl.1–1.2) Ockham thinks that these attempts to salvage the reality of time are doomed to failure. (a) *Ockham's Critique of Henry*. Ockham charges that Henry's position—that time exists in reality as a mind-independent continuum, but is distinguished into earlier and later parts only by the mind—is contradictory.

Indeed, Henry seems to have been guided here by the analogy with a line, which is really continuous and—prior to the activity of something else—does not have its parts actually divided from one another. But it was a disanalogy between successives and continuous quantities in just this respect that gave rise to the Aristotelian and Augustinian puzzles about the reality of time in the first place: viz., that whereas all the parts of a line are actual and combine to make something one *per se*—and this in reality apart from any mental act—not all the parts of time or motion exist in themselves.[18] So while there is nothing in reality that actually divides a given line or surface, there is something in reality that distinguishes one instant from another and from the various parts of time: viz., actual existence in itself.

17. *Physics-commentary*, IV, q.5, (Venice, 1492), quoted by Maier in *op. cit.*, 56–57.

18. *Rep.* II, q.10, (OTh V, 190–91).

Thus, Ockham insists that since motion is a successive, Henry cannot consistently admit real, mind-independent passage or motion without supposing that, apart from any mental act, there is real, mind-independent succession and consequently a distinction of before and after.

> ...Motion is flux. But continuous flux in motion is only from the prior to the posterior. Therefore, since it is impossible to have a continuous flux without [flowing] continuously from the prior and the posterior, it is impossible to have motion apart from the prior and the posterior. But where there is prior and posterior, there is distinction. Therefore, it is impossible to have continuous motion apart from distinction. Therefore, to say that motion is continuous apart from any distinction is to contradict oneself.[19]

Nor, Ockham adds, can Henry escape the contradiction by holding that motion is distinct from the flux. For if motion does not involve succession itself, then it follows that motion itself is a permanent thing—which Henry would find absurd.[20]

Further, if, contrary to Henry, mind-independent motion must involve a distinction of before and after, Henry's further claims—that motion insofar as it is both continuous and distinct with respect to before and after exists partly outside the mind and partly in the mind, and that motion has material existence outside the mind but formal existence in the mind alone—will likewise be false. For even if the before and after of motion have objective existence in the mind as objects of thought, motion will have both formal and material existence independent of the mind as well.

(b) *Ockham's Rejection of Reality through Continuity.* Further, Ockham has two reasons for rejecting the basic idea behind all of the above mentioned accounts of the reality of time: viz., the claim that the parts of time have some sort of existence by virtue of having a certain positive order to the present instant. The first is that "...what does not exist cannot have a positive order. But the parts of time are nothing over and

19. *Ibid.*, (OTh V, 183–84).
20. *Ibid.*

above permanent things..." Further,

> ...since the parts of time are pure nothing, they cannot be positively continued in relation to any positive being, since nothing cannot be continued by any being, nor can nothing make any whole or any one thing...[21]

As previously noted, the parts of a line exist all at once, so that one can be continuous with and hence have a positive order to another. If time were a thing really distinct from permanent things, its parts could not all exist at once and so could not have a positive order to one another.

Ockham's second reason is that this approach assumes that —whatever may be the case with the parts of time—the present instant is a really existent thing. It is to Ockham's critique of this thesis that we now turn.

## 2. THE ONTOLOGICAL STATUS OF THE PRESENT INSTANT

Aristotle realized that some philosophers might try to salvage the reality of time by appealing to the reality of the present instant, and accordingly raised some doubts about the ontological status of the latter. Ockham understands Aristotle to argue that now, or the present instant, cannot be any distinct real thing either. For either now would always be the same thing, or it would always by changing; either way, absurdities appear to follow. Against the first alternative, Aristotle argues,

(2.1) (a) Those that exist at the same instant are simultaneous.

(b) Therefore, if the same instant remains for the whole of time, all of the times will be simultaneous.[22]

21. *Ibid.*, (OTh V, 186–87, 217–18); *Quaest. Physicorum*, q.37, (OPh VI).

22. *Expos. Physicorum* IV, t.92, (OPh V).

But surely anyone who held that now would be the same thing throughout the whole of time, would recognize some ambiguity in the expression 'existing at an instant' which would enable them to deny (a). Or they would say that it does not follow from the fact that now is the same thing for the whole of time that everything exists at the same instant, and so would reject (b) and the inference from (a) to (b).

Against the suggestion that different instants are different fleeting things, Aristotle musters the following objection:

(2.2) (c) No part of time is simultaneous with another part unless one is part of another.

(d) Therefore, distinct nows are not simultaneous.

(e) Therefore, if different nows are distinct things and exist at different times, then each now is corrupted. (d)

(f) If a now is corrupted, it is corrupted in itself or in some other time.

(g) If now were corrupted in itself, it would both exist and not exist at one and the same time—which is contradictory.

(h) Therefore, a now is not corrupted in itself. (g)

(j) If now were corrupted at another instant, then either in the now next to it or in another.

(k) There is no now next to it, because time is continuous.

(l) Therefore, now is not corrupted in the now next to it. (k)

(m) If it were corrupted in a remote now, then it would be simultaneous with all of the nows in be-

tween—which contradicts (d).

(n) Therefore, now is not corrupted in a now remote from it. (d and m)

(o) Therefore, now is not corrupted in another instant from itself. (l and n)

(p) Therefore, it is not the case that different nows are distinct things. (e, f, h, and o)[23]

But (g) will be true only if '*x* ceases to exist at *t*' means '*x* does not exist at *t* but did exist at any time arbitrarily close to *t*'. Most medievals would have accepted this extrinsic limit analysis of ceasing to exist for permanent things and for successives, but not for everything. For example, the ceasing to exist of a certain degree of a quality has an intrinsic limit analysis: viz., '*x* ceases to exist at *t*' means '*x* exists at *t* and at any time after but arbitrarily close to *t*, *x* will not exist' (see Part Four, chapter 17 above). It is this latter, intrinsic limit analysis of ceasing that would have been applied to such putative instantaneous things as sudden change or instants.

If Aristotle's puzzle-arguments are indecisive, Ockham has a whole battery of them to supplement Aristotle's attack. (2.1) *Ockham's Attack on the Persistent Now.* Whereas the position—that now remains always the same through the whole of time—may have been a straw man for Aristotle and in any event is scarcely elucidated by him, Ockham knows of certain "moderns" who actually held a version of this opinion: viz., "that instant remains the same with respect to its substance, but varies with respect to its existence (*esse*) or definition."[24] For example, Giles of Rome wants to say that time is so related to the motion of the heavens that it is really one movable thing but differs in reason with the passage of time; and likewise that now is really one and the same movable thing throughout the whole

23. *Ibid.*, t.90, (OPh V).
24. *Ibid.*, t.104, (OPh V); *Quaest. Physicorum*, q.57, (OPh VI).

of time, but distinct in reason (*ratio*).[25]

Ockham asks what the ontological status of such existences (*esse*), definitions, or reasons (*rationes*) is.

(i) Either these existences or definitions exist independently of the mind or not.

(ii) If they exist outside the mind, then they fall under one of the ten categories.

(iii) Not in the genus of substance, because then substances would be continuously generated and corrupted—which is absurd.

(iv) Not in the genus of quantity.

(v) Not in the genus of quality.

(vi) Not in any of the other genera, since they have no extramental existence.

(vii) Therefore, they exist only in the mind. (ii–vi)

(viii) Therefore, what is outside the mind is not really distinct through such existences or definitions. (vii)

(ix) Therefore, an instant is not an indivisible extramental thing distinct from every other subject.[26]

Behind the conclusion in (viii) is Ockham's general rejection of claims of the form '*x* and *y* are really the same but distinct in reason'. But as we have seen (in Part One, chapter 2), his criticisms of his predecessors' usage reflect a misunderstanding of it. In any event, (viii) seems of dubious relevance to the posi-

25. *Commentarium in VIII libros Physicorum Aristotelis* IV, lectio 18, fol.704rb.

26. *Expos. Physicorum* IV, t.104, (OPh V); *Quaest. Physicorum*, q.57, (OPh VI).

tions under attack, which do not claim that instant is really distinct at different times, but only that it is distinct in reason with respect to its existence or definition. For example, Giles of Rome argued that the reality of time can be grounded on the order of its parts to the present instant, only if something permanent can serve as the foundation of that relation. Not something permanent insofar as it exists under first one habitude or mode of being and then another.[27] Thus, Giles concludes that the present instant is really the same as the heavens which remain the same real thing throughout the history of the universe, but exist under different habitudes or modes of being insofar as they exist in different places. Nevertheless, these habitudes or modes of being are not in this case things (*res*) or entities distinct from the heavens. Rather different concepts signify the heavens to exist one way (at one place) and then another (at another place), and the heavens really exist first one way and then another. Hence, at different times now is really the same but distinct in reason.[28]

As for the issue of what category the now of time is in, Giles of Rome replies that it is in the category of substance, since it is really the same as the heavens which move in the most uniform way. Nor does it follow that substances would be continuously generated and corrupted with the passage of time, since this would be a matter of the heavens changing their location. For now differs in existence or definition insofar as the very same heavens change place.[29]

Aside from Giles' willingness to speak of modes of being as "parts of being,"[30] it is not clear that he wants in general to reify them any more than Ockham means to reify the ways things might be when he says that when Socrates and Plato are "*aliter et aliter*" it is true and then false that Socrates is spatially proximate to Plato (see Part One, chapters 5 and 7 above).

27. *De mensura angelorum*, q.5, (Venice, 1503, fol.54rab).

28. For Giles's views regarding the categories as the principal modes of being, see *De mensura angelorum*, q.4, fol.44rb–47vb.

29. *Ibid.*, q.5, fol.54rab–va.

30. *Ibid.*, q.4, fol.46va–b.

Ockham is exaggerating the cash value of the differences between himself and Giles on this point.

Ockham's further conclusion in (ix) seems even more irrelevant, since the position under attack does not claim that an instant is transient insofar as it is extramental; nor that it is an extramental thing distinct from every other subject. For this position insists that now is really the same as the heavens. Thus, Ockham's argument against the claim that now is always the same fares no better than Aristotle's does.

(2.2) *Ockham's Critique of the Fleeting Now.* Against the superficially more plausible view that now is always different, Ockham mobilizes five arguments, parallel to those he has advanced against the view that sudden change (*mutatio*) is a thing distinct from permanent things. (2.2.1) First, Ockham argues that there is no distinct real thing with which an instant could be identified.

(i) If an instant or now were a real extramental thing, wholly distinct from permanent things, it would be either (a) substance or (b) accident.

(ii) An instant is not substance: i.e., not-(ia).

(iii) If (ib), then it would exist either (a) in something divisible or (b) in something indivisible as in a first subject.

(iv) Only a divisible accident can exist in a divisible first subject.

(v) An instant is indivisible, by definition.

(vi) Therefore, not-(iiia). (iv and v)

(vii) If (iiib), then either it would exist (a) in an indivisible substance or (b) in an indivisible accident.

(viii) Only the intellectual soul is an indivisible substance that has accidents and it is not the first subject of an instant.

(ix) Therefore, not-(viia).

(x) Not-(viib).

(xi) Therefore, not-(iiib). (vii, ix, and x)

(xii) Therefore, not-(ib). (iii, vi, and xi)

(xiii) Therefore, it is not the case that an instant or now is a real extramental thing wholly distinct from permanent things. (i, ii, and xii)[31]

(ii) is defended on the ground that an instant is not thought to be either matter, form, or the composite of the two; but nothing other than these counts as substance. Again, if an instant were a substance really distinct from other substances, it would follow that substances were being continually generated and corrupted with the passage of time. Apparently, even those who would allow that accidents could be continually generated and corrupted found a special difficulty with the corresponding assumption about substances. Ockham argues for instances of (iv) by means of the following argument:

(a) If an indivisible accident existed in a divisible first subject, there would be no more reason why it should exist in one part of the subject than in another.

(b) Therefore, if an indivisible accident existed in a divisible first subject, it would exist in all the parts of that subject or none. (a)

(c) Not none.

(d) If an indivisible accident existed in all the parts of a divisible first subject, it would either be whole in the whole and whole in each part or whole in the whole and

31. *Expos. Physicorum* IV, t.104, (OPh V); VI, t.24, (OPh V); *Quaest. Physicorum*, q.55, (OPh VI); *Summulae Physicorum* IV, c.1, 85, (OPh VI).

part in each part.

(e) No one would admit that it is whole in the whole and whole in each part.

(f) If whole in the whole and part in each part, then it would be divisible.

(g) Therefore, it is not the case that an indivisible accident exists in all the parts of a divisible first subject. (d, e, and f)

(h) Therefore, it is not the case that an indivisible accident exists in a divisible first subject. (b, c, and g)[32]

Some of Ockham's opponents would have insisted on (viib), maintaining that the first subject of an instant is a sudden change (*mutatio*). Ockham replies, however, that this is only to press the problem of locating a first subject for an indivisible accident back a step further. For none of his opponents want to allow that the intellect is in general the first subject of sudden change (*mutatio*) either. But if not, then some corporeal substance would have to be. Yet this is ruled out by the argument in (a)–(h), since every corporeal substance is divisible.[33] Further, if it were any corporeal substance, it would be the heavens, by whose motion Aristotle says we measure the duration of other things. But if so, then the heavens would continuously receive and lose new things, and the heavens would be in potentiality with respect to something other than place—which Aristotle denies.[34] Inasmuch as Ockham's opponents agreed with his claims about the intellectual soul, they will have difficulty locating an appropriate first subject for such an indivisible

32. *Quaest. Physicorum*, q.55, (OPh VI); *Summulae Physicorum* IV, c.1, 85, (OPh VI).

33. *Expos. Physicorum* IV, t.104, (OPh V); *Quaest. Physicorum*, q.55, (OPh VI).

34. *Expos. Physicorum* VI, t.24, (OPh V); *Summulae Physicorum* IV, c.1, 86, (OPh VI); *Quaest. Physicorum*, q.55, (OPh VI).

accident.

(2.2.2) A second, "scientific" argument observes that if instants were distinct things they would be successively corrupted, and asks what the causes of such corruption could be.

(i) There are infinitely many instants in any interval of time, none of which is simultaneous with another.

(ii) Therefore, if an instant were an indivisible thing wholly distinct from permanent things, infinitely many such things would perish in any short interval of time. (i)

(iii) Everything that is naturally destroyed by the action of a natural thing either is destroyed (a) by the destruction of its producing or conserving cause, (b) by the withdrawal of its producing or conserving cause, (c) by the destruction of its subjects, or (d) by the addition of its contrary.

(iv) There is no cause producing or conserving an instant.

(v) Therefore, not-(iiia) and not-(iiib).

(vi) Not-(iiic).

(vii) Not-(iiid).

(viii) Therefore, it is not the case that an instant is an indivisible thing wholly distinct from permanent things. (ii–vii)[35]

Ockham's opponents would object to this argument at several points, however. First, they would have challenged (vi), maintaining that the equally instantaneous entity sudden change (*mutatio*) is the first subject in which an indivisible instant inheres. Since an accident is corrupted with its subject of in-

35. *Expos. Physicorum* IV, t.104, (OPh V); *Summulae Physicorum* IV, c.1, 85, (OPh VI); *Quaest. Physicorum*, q.55, (OPh VI).

herence, instants are continuously corrupted just as sudden changes are. But Ockham thinks that he has ruled out this defense of (iiic) twice over: for he takes himself to have shown that sudden change cannot by any such distinct thing itself, and that in any case there is no first subject for such indivisible accidents to inhere in (see argument (2.2.1) above).

Again, Ockham does not so much as offer to defend (iv), and while it is clear enough that an instant will not have a conserving cause because it is not conserved, it is not obvious that such rapidly passing instants would have no producing cause. Ockham would doubtless retort that the burden of proof is on his opponents to identify such causes; he cannot think what they would be.

Finally, it is tempting to object to (vii) that (iiid) is precisely the right choice: that a new instant is the contrary of the old one and therefore displaces it, just as whiteness displaces blackness. Ockham would reject this analogy, however. For while whiteness and blackness are of the same genus, they are of different species; but all instants are of the same species. Hence, one instant cannot be the contrary of the other. At this point someone who believed instants to be distinct things might charge that whether or not one instant is, strictly speaking, the contrary of the other, it nevertheless pertains to them by their very nature that they cannot exist simultaneously and hence that one is corrupted at the approach of the other. Demand for any further natural explanation of their corruption is, accordingly, misplaced.

(2.2.3) A third argument presses Ockham's contention that since such really distinct instants would all be of the same most specific species, none would be incompossible with any other:

(i) God can conserve all things (*res*) of the same kind in real existence at one and the same time.

(ii) Therefore, if instants were things really distinct from permanent things, God could preserve all past instants in existence now—which is impossible. (i)

(iii) Therefore, it is not the case that instants are things really distinct from permanent things.

The impossibility referred to in (ii) is twofold: the first arises from the putative impossibility of a simultaneously existing actual infinity of distinct things that do not unite to make anything one *per se*;[36] the second, because it is contrary to the nature of an instant to exist simultaneously with any other instant. Once again, Ockham's opponents would insist, contrary to (i), that it is an essential feature of some species that no member of it can be simultaneous with any other.

(2.2.4) Ockham's fourth argument rests once again on his assumption that

(A) It is naturally impossible that infinitely many things (*res*) of which none is part of another or combines with another to make something one *per se* but which are wholly distinct, should be generated or corrupted in a finite time.

It runs as follows:

(i) It is not the case that infinitely many wholly distinct things perish in a finite time.

(ii) There are infinitely many instants in any interval of time, none of which is simultaneous with another.

(iii) Therefore, if an instant were an indivisible thing wholly distinct from permanent things, infinitely many of such things would perish in any short interval of time. (ii)

(iv) Therefore, it is not the case that an instant is an indivisible thing wholly distinct from permanent things. (i and iii)[37]

36. *Rep.* II, q.10, (OTh V, 187); *Quaest. Physicorum*, q.55, (OPh VI).
37. *Expos. Physicorum* IV, t.104, (OPh V); *Rep.* II, q.10, (OTh V, 187);

Ockham's opponents would probably not contest his argument in (ii) and (iii), but would insist that it shows that (A) and (i), not their position, to be mistaken.

(1.3 & 2.2.5) Finally, Ockham maintains that, even if the reification of fleeting instants and time did not lead to insuperable difficulties, it would be ontologically superfluous. Thus, regarding instants, he contends that

> ...instants are no such things (*res*). For it is futile to do with more what can be done with fewer. But everything that can be saved by assuming such things can be saved without any such things...[38]

Likewise, it is superfluous to assume that time is any thing (*res*) really distinct from the heavens in uniform motion[39] as can be seen from the following consideration. If God made another sky more noble than the one He has already made, the motion of the former would be faster than that of the latter and consequently time would no longer be identified with the motion of the latter. But this could happen without the sky God has already made losing any absolute accident. Therefore, it is superfluous to suppose that time is any such absolute accident inhering either in the heavens or in the motion of the heavens.[40]

(2.3) *Summary of Ockham's Critique.* Ockham's arguments against the claims that time and instants are something really distinct from permanent things are mostly disappointing. His proofs that time is nothing really distinct from permanent things impose on successives the standards for existence that his opponents explicitly restrict to permanent things only. Arguments (2.2.2) and (2.2.3) assume that it is logically possible for all of the members of the same species—no matter what the species—to exist simultaneously, and (2.2.2) is thereby led to demand an extrinsic explanation for the successive corruption

*Summulae Physicorum* IV, c.1, 85, (OPh VI); *Quaest. Physicorum*, q.55, (OPh VI).

38. *Summulae Physicorum* IV, c.1, 86, (OPh VI).

39. *Ibid.*, c.4, (OPh VI).

40. *Rep.* II, q.10, (OTh V, 185, 197–98); *Quaest. Physicorum*, q.37, (OPh VI).

of instants where none seems to be needed. (2.2.4), on the other hand, presupposes that

> (A) It is naturally impossible for infinitely many things (*res*) of which none is part of another or combines with another to make something one *per se* but which are wholly distinct, should be generated and corrupted in a finite time,

a claim his opponents would reject. Ockham's most powerful challenge is the one that (2.2.1) lays at the door of those who suppose instants to be real, indivisible accidents. For instants could not, as Aristotelian accidents, be containers of what really exists at an instant; rather they would have to inhere in Aristotelian substances. But what could the first subject of such indivisible accidents be? Ockham's appeal to the Razor is one that we will be in a position to evaluate only after examining Ockham's positive account of time. And, as we shall see, he finds the extra entities superfluous partly because he has a different view of the natural function that time is supposed to serve.

## 3. OCKHAM'S OWN VIEW

Ockham's own opinion is that the reification of time and fleeting instants is superfluous, because time is neither a unique type of Aristotelian accident, nor a cosmic container of temporal things and events, but a cosmic clock by means of which we can measure their duration. The inspiration behind Ockham's position is quite clearly the definition of time as the number of motion with respect to before and after. And Ockham interprets the details of Aristotle's formula at great length.[41] (3.1) *Number As Measure.* First in need of clarification is the notion of number. (3.1.1) Ockham explains that when he

41. *Rep.* II, q.10, (OTh V, 188–196); *Expos. Physicorum* IV, t.100, (OPh V); *Summulae Physicorum* IV, c.4, 89, (OPh VI).

says that time is the number of motion, he means that time is something by which we measure motion. And he understands that a measure is something whose quantity is known, by virtue of which the unknown quantity of another can be found out.[42] But in Ockham's opinion, the two principal sorts of quantity—viz., discrete and continuous quantity—are measured in different ways. The measure of a multitude of discrete quantities—say, a group of human beings—need not be anything wholly distinct from that multitude and its parts. His thought seems to be that since each human being is a unity, we can count each such unity and thereby determine the quantity of the multitude. On the other hand, magnitudes of continuous quantities must be measured by something really distinct from the thing measured and from its parts.[43] For example, the ell or yardstick by which cloth is measured is really distinct from the cloth measured. What we do is to treat the length of the stick as a discrete quantity, and having noted its length, compare it to the length of the cloth by seeing how many times the stick can be held up to the cloth before its length is exhausted. Thus, we may conclude that the cloth is three yards long. Similarly, time is the measure of the duration of motion. That which corresponds to the stick in this case is uniform motion—in the first instance, that of the heavenly sphere whose motion is the fastest. Having noted the quantity of its motion—say, having taken cognizance of one complete revolution—we can treat that revolution as a discrete quantity and ask with how many such revolutions some other motion coexisted. Thus, we could say that "time is the measure of everything whose duration the intellect can ascertain through something more known to it."[44] It is, in short, a cosmic clock, or, better, the motion of its hands.

(3.1.2) Having said that time is the *number* of motion, Aristotle himself admits that 'number' can be taken in more than one way. We may speak of the *number numbered*, the concrete

42. *Expos. Physicorum* IV, t.119, (OPh V).

43. *Rep.* II, q.10, (OTh V, 189–190).

44. *Summulae Physicorum* IV, c.3, 88–89, (OPh VI); cf. *Quaest. Physicorum*, q.48, (OPh VI).

plurality of things that is or can be numbered, such as a number of human beings or a number of horses; or the abstract *number by which* we count. The former is nothing distinct from the human beings or horses counted. The latter is an abstract general concept, which exists only in the mind. Aristotle says that time is not the latter but the former.[45]

Commenting on the text of Aristotle, Ockham elaborates the distinction in a different way and draws a different conclusion. He, too, says that we must distinguish (i) the number numbered from (ii) the number by which we number, and remarks that (i) can be identified with the concrete plurality that is or can be numbered (ii) can be further distinguished into (a) the act of the soul numbering, and (b) the distinct things by which other things are numbered.[46] Ockham maintains that time is both the number numbered and the number by which we number in sense (iib). Time is the number numbered insofar as we do or can count before and after in the first motion—e.g., one or more revolutions. But it is the number by which we number in sense (iib), since having counted before and after in the first motion, we can use that to measure the duration of other motions.[47]

(3.2) *Is Time Motion and Motion Time?* Time is that by which we measure the duration of other things or phenomena. But that by which we measure the duration of other things is the uniform motion of some heavenly sphere. It seems to follow that time is the uniform motion of some heavenly sphere. And since indefinite propositions convert, we can apparently conclude further that motion is time. Yet, Aristotle seems to argue explicitly against these conclusions in Book IV, chapter 10 of the *Physics*. First, he offers a pair of arguments against the view he assigns to Plato—viz., that time is the motion of the heavens:

(3.2.1) (i) Any part of time is time.

45. *Physics* IV, 11, 219b2–10; cf. *Expos. Physicorum* IV, t.102, (OPh V).

46. *Ibid.*, t.107, (OPh V).

47. *Rep.* II, q.10, (OTh V, 197–98, 228–29); *Expos. Physicorum* IV, t.102, (OPh V); t.109, (OPh V); *Quaest. Physicorum*, q.47, (OPh VI).

(ii) Not any part of circular motion is circular.

(iii) Therefore, circular motion is not time. (i and ii)[48]

(3.2.2) (i) If time were the motion of the heavens, then if there were many heavens, there would be many times—which is impossible.

(ii) Therefore, it is impossible for the motion of the heavens to be time.[49]

And he advances a second pair of arguments, based on the Indiscernibility of Identicals, to show that time is not motion of any sort:

(3.2.3) (i) Motion is not one and the same in every place.

(ii) Time is one and the same in every place.

(iii) Therefore, time is not motion. (i and ii)[50]

(3.2.4) (i) Every motion is either faster or slower than another motion.

(ii) Time is neither faster nor slower than another time.

(iii) Therefore, time is not motion. (i and ii)

In defense of premiss (ii), Aristotle offers the following reasoning:

48. *Expos. Physicorum* IV, t.93, (OPh V); *Summulae Physicorum* IV, c.9, 92, (OPh VI); *Quaest. Physicorum*, q.42, (OPh VI).

49. *Expos. Physicorum* IV, t.93, (OPh V); *Rep.* II, q.10, (OTh V, 206); *Summulae Physicorum* IV, c.9, 92, (OPh VI); *Quaest. Physicorum*, q.42, (OPh VI).

50. *Expos. Physicorum* IV, t.95, (OPh V); *Summulae Physicorum* IV, c.9, 92, (OPh VI); *Quaest. Physicorum*, q.42, (OPh VI).

(iv) 'Fast' and 'slow' are defined by time.

(v) Time is not defined by time.

(vi) Therefore, time is neither faster nor slower than other time. (iv and v)[51]

To these, medievals added others based on the Indiscernibility of Identicals and further citations from Aristotle:

(3.2.5) (i) Time is an accident of motion and so naturally posterior to motion.

(iii) Nothing is naturally posterior to itself or is an accident of itself.

(iii) Therefore, time is distinct from motion. (i and ii)[52]

Similarly,

(3.2.6) (i) Time is a *passio* of motion.

(ii) A *passio* is not really the same as that of which it is a *passio*.

(iii) Therefore, time is not really the same as motion. (i and ii)[53]

Again,

(3.2.7) (i) Time is the measure of motion.

(ii) Nothing is the measure of itself.

51. *Expos. Physicorum* IV, t.96, (OPh V); *Rep.* II, q.10, (OTh V, 205); *Summulae Physicorum* IV, c.9, 92, (OPh VI); *Quaest. Physicorum*, q.42, (OPh VI).

52. *Rep.* II, q.10, (OTh V, 202); cf. *Expos. Physicorum* IV, t.98, (OPh V).

53. *Rep.* II, q.10, (OTh V, 206).

(iii) Therefore, time is not motion. (i and ii)[54]

And paralleling Aristotle's (3.2.2),

(3.2.8) (i) If time were the motion of the heavens, then there would be no time if the heavens stood still.

(ii) Even if the heavens stood still, there would be time.

(iii) Therefore, time is not the motion of the heavens. (i and ii)[55]

(R3.2.1–3.2.4) Ockham's general reaction to Aristotle's arguments that time is neither the circular motion of the heavens nor any other motion, or vice versa, is that taken literally they employ argument forms that are not generally valid. Rather at most they serve to illustrate that the terms 'time' and 'motion' are not absolute but connotative terms that differ in their nominal definitions; or, since 'time' and 'motion' often do not function as genuine nouns, that they abbreviate different longer expressions.[56] In Ockham's opinion, 'time' does not signify any extramental thing not signified by 'motion'; for 'time' principally signifies a certain heavenly sphere moving with maximum speed and uniformity, and the latter is something that 'motion' signifies as well. But 'time' consignifies in addition the soul numbering or observing that the heavenly sphere is first here and later there, whereas 'motion' does not consignify any such mental activity.[57]

54. *Ibid.*; cf. *Summulae Physicorum* IV, c.9, 92, (OPh VI).

55. *Rep.* II, q.10, (OTh V, 206); *Quaest. Physicorum*, q.40, (OPh VI).

56. *Expos. Physicorum* IV, t.93, (OPh V); t.95, (OPh V); t.96, (OPh V); cf. Part One, chapter 5 above.

57. *Expos. Physicorum* IV, t.102, (OPh V); *Rep.* II, q.10, (OTh V, 191–96); *Quaest. Physicorum*, q.47, (OPh VI). In *Reportatio* II, q.10, (OTh V, 191–96), Ockham expresses this point in terms of a view, which he clearly has abandoned later (see Part Two, chapter 10 above), according to which both absolute and connotative terms have both nominal and real definitions. Where connotative terms are concerned, the principal significatum occurs in

(R3.2.1) Focussing on the first of Aristotle's arguments that circular motion is not time, Ockham observes that "this form of argument does not hold good taken the way it sounds," as can be seen from the following counter-instances: 'Each part of substance is substance; not every part of a man is a man; therefore, man is not a substance' and 'Each part of something quantified is quantified; not every part of a triangle is a triangle; therefore a triangle is not anything quantified'. Ockham concludes that "it is not possible to infer a negative conclusion in this form of argument...but it is possible to infer that two such terms are not interchangeable and that such names are not synonymous..."[58] Thus, although both 'time' and 'the circular motion of the heavens' both principally signify a certain heavenly sphere moving with maximum speed and uniformity, the two terms are not synonymous.

(R3.2.2) Regarding Aristotle's second argument, Ockham explains that one cannot infer from the mere fact that a term '*B*' is predicated of a term '*A*' that if there were many *B*'s, there would be many *A*'s. For example, neither the inference 'A man is white; therefore, if there were many whites, there would be many men' nor the inference 'A first intelligence is a being; therefore, if there were many beings, there would be many first intelligences' holds good. If, however, the predicate term is synonymous with or has the same definition as the subject term, it is legitimate to infer a plurality from a plurality: e.g., 'A man is a rational animal; therefore, if there were many rational animals, there would be many men' holds good, and so would '"The motion of the heavens' and 'time' have the same definition; therefore, if there were many heavens in motion, there would be many times." In this discussion, Ockham implies that

the real definition, while both principal and secondary significata occur in the nominal definition. With absolute terms, on the other hand, nothing more is found in the nominal than the real definition. Thus, Ockham says that 'time' and 'motion' agree so far as their real definitions are concerned, but differ in their nominal definitions.

58. *Expos. Physicorum* IV, t.93, fol.57vb, (OPh V); cf. *Summulae Physicorum* IV, c.11, 94, (OPh VI); *Quaest. Physicorum*, q.42, (OPh VI).

Aristotle intended to use the impossibility of there being many times to conclude that 'the motion of the heavens' and 'time' differ in definition.[59]

Elsewhere, Ockham does not so much criticize the inference as deny that it yields any consequences that he or Aristotle should find problematic. He suggests that if there were many such heavens in motion, "then there would be many times really and formally," yet, "if there were many heavens, still time would be the same by equivalence, so that I could measure by one of them—if it were known to me—just as well as by all."[60] Take the heavenly sphere that is now moving with maximal speed and uniformity. It is what 'time' principally signifies. If there were another world with another heavenly sphere just like it, moving at the same speed, then it would constitute a really distinct time. But any motion that coexisted with two revolutions of the first, would also coexist with two revolutions of the second, since the two heavenly clocks are by hypothesis synchronized. Even if the new heavenly sphere moved twice as fast as the one that exists now, still an equivalence relation could be established between the two measures, just as one can between the motion of the heavenly sphere and that of the hands of an earthly clock. Thus, no absurdity would follow from the assumption that there are many heavens after all.

The text of the *Summulae Physicorum* adds a further polemical note. Ockham realizes that his opponents may cite Aristotle's argument in (3.2.2) against the adequacy of Ockham's own contention—that time is nothing mind-independent and really distinct from a heavenly sphere moving with maximum speed and uniformity—and conclude that he is unable to do with fewer what they do with their accident really distinct from and inhering in the first motion or movable object. But this strategy would be futile. For the argument equally proves that time is no such accident, "since *passiones* or accidents are

59. *Expos. Physicorum* IV, t.93, (OPh V); cf. *Quaest. Physicorum*, q.42, (OPh VI).

60. *Rep.* II, q.10, (OTh V, 225); cf. *Summulae Physicorum* IV, c.11, 95, (OPh VI).

multiplied with the multiplication of subjects" and so with the number of heavenly spheres.[61]

(R3.2.3) Against the third, Ockham charges that this reasoning no more establishes the falsity of 'Time is motion', than the inference 'Being is not one for all, and time is one for all; therefore time is not a being' holds good. Taking the premisses literally, the most the argument would show is that "the terms 'time' and 'motion' are not interchangeable; since although it could be granted that every time is motion"—in that 'motion' supposits for the moving heavenly sphere that 'time' supposits for—"it cannot, nevertheless, be granted that every motion is time"—in that 'motion' supposits for some moving bodies that 'time' does not supposit for. The reason is that time, by definition, is a measure. And, Ockham stresses, only uniform motions could be used to measure the durations of things. Thus, in the proposition 'Every motion is time', 'motion' will supposit for bodies moving in an irregular fashion and 'time' will not, thereby rendering the proposition false.[62]

The text of the *Summulae Physicorum* notes that premiss (ii) should not be taken at face value, however. For Aristotle does not mean that time is literally in every place the way "the locomotion of a body is really where the body is." Rather "time is said to exist on the earth and on the sea, because everything that exists on the earth and on the sea can be measured by time."[63] If (i) is taken to mean that not every motion is that by which anything whatever that exists on the earth and on the sea can be measured, then it is true. But it will not follow further that time is not motion, since some motion, viz., the first motion, is such a measure.[64]

(R3.2.4) Neither of the inference patterns suggested by a literal reading of Aristotle's arguments here holds good. 'Every motion is either faster or slower than another motion; time is

61. IV, c.11, 95, (OPh VI).

62. *Expos. Physicorum* IV, t.95, (OPh V); see Part Two, chapter 11 above.

63. IV, c.11, 96, (OPh VI).

64. *Ibid.*, cf. *Quaest. Physicorum*, q.51, (OPh VI).

not faster or slower than another time; therefore, time is not motion' is just as invalid as 'Every hot thing is more or less hot than another; no fire is more or less fire than another; therefore, fire is not hot' is. Likewise, the defense of (ii) is no sounder than "'Colored' is defined by body; 'body' is not defined by body; therefore body is not colored" is. Using the principle of charity once again, Ockham suggests that Aristotle understood (iv)–(vi) as follows:

(iv′) 'Fast' and 'slow' are defined by 'time' taken in an oblique case.

(v′) 'Time' is not defined by 'time' taken in an oblique case.

(vi′) Therefore, time is not faster or slower than another time. (iv′ and v′)[65]

But it is far from obvious how (vi′) is to derived from the conjunction of (iv′) and (v′) either. The text of *Reportatio* II, q.10, of the *Summulae Physicorum*, and of *Quaestiones in libros Physicorum* concede that 'Time is fast' is literally true, since the principal significatum of 'time' is the fastest motion. But insofar as comparative speed is measured relative to time as a standard, time cannot be said to be fast or slow, but uniform.[66] (vi′) is nonetheless true, because, strictly speaking, there is only one time; and because if there were many times, they would be equivalent with one another (see (R3.2.2) above). What (i)–(iii) establish, however, is that 'time' and 'motion' do not have the same definitions, as was explained above.[67]

(R3.2.5–3.2.6) Ockham's reply to the first pair of arguments added by his predecessors and contemporaries is predictable: '*passio*' and 'accident' can be taken either for a distinct real thing inhering in a subject, or for predicates or predicable

65. *Expos. Physicorum* IV, t.96, (OPh V).

66. *Rep.* II, q.10, (OTh V, 223); *Summulae Physicorum* IV, c.11, 96, (OPh VI); *Quaest. Physicorum*, q.43, (OPh VI).

67. *Expos. Physicorum* IV, t.96, (OPh V).

concepts. Ockham is convinced, and is sure Aristotle would agree, that 'time' is a *passio* or accident of motion only in the sense that it is a predicate or concept that can be predicated of 'motion' *per se* in the second way and not in the sense of being something real distinct from and inhering in motion.[68]

(R3.2.7) (ii) follows from Ockham's opening remarks about the measure of a continuous magnitude being something really distinct from the quantity measured and from its parts, and (i) from the Aristotelian definition of 'time'. What follows, however, is that time does not measure itself. Since, strictly speaking, time is the motion of the heavenly sphere that moves the fastest—the so-called "first" motion—time as a whole does not measure the first motion. But the first motion is used to measure other motions, because the duration of the former is better known that that of the latter.[69] In the *Expositio*, Ockham notes Aristotle's remark that not only does time measure motion but also motion measures time, "since we sometimes say that time is great or small because motion is great or small."[70] Later, he makes it clear that the motion by which we measure time is another, "inferior" motion—i.e., that of a body that exists below the heavenly sphere that moves with maximum speed and uniformity—the quantity of whose duration is well known to us. For example, someone who knew how far a horse could go in a given length of time might judge how much time had passed by how far the horse had gone. Likewise, we now measure the motions of the heavenly bodies by using earthly clocks.[71] The *Summulae Physicorum* adds that while the whole of the first motion is not measured by time, still a large part of that motion can be measured by a small part and a larger part of time by a smaller part the way a day is measured in hours.[72]

(R3.2.8) Behind premiss (ii) is the Bible story about how the

68. *Rep.* II, q.10, (OTh V, 224–25, 277–78); *Expos. Physicorum* IV, t.98, (OPh V).

69. *Rep.* II, q.10, (OTh V, 211).

70. IV, t.112, fol.61vb, (OPh V).

71. IV, t.112–13, (OPh V); cf. *Quaest. Physicorum*, q.43, (OPh VI).

72. IV, c.11, 97, (OPh VI).

sun stood still while Joshua led the Israelites into battle. The objectors reason that there was a time during which the battle took place, and consequently there was time even when the heavens stood still. But this would not be possible if time were the motion of the heavens.

Ockham replies that time, in the strict sense, is the motion of the heavenly sphere that moves the fastest. And in the *Reportatio*, he infers that

> ...if there were no first motion, then there would be no time that is the same as a real motion that measures other inferior motions. That is the way the Doctors understand the claim that there will be no time after Judgment Day...[73]

Nevertheless, Ockham thinks, even if no real motions were time, it would still be possible for the soul to imagine a motion and use that imaginary motion to measure the duration of others. His eye is on the analogy with the expert builder who can accurately judge the dimensions of a building without using any real measuring stick. He reasons—pace Wittgenstein—that the builder does it by referring to a measure which he imagines and which has only objective existence as an object of thought.[74] In the same way, imaginary motions used as measures might be time in a broad sense Ockham concludes that this is how there was time during Joshua's battle, even though the sun stood still; and it is also how "the Blessed will measure the penalties of the damned after Judgment Day."[75]

Given Ockham's reply to (3.2.7), however, the move from "no heavenly motions" to "no real motions" seems precipitous. After all, if there are uniform inferior motions the quantity of whose duration is known to us, why could not they have been used to measure the duration of Joshua's battle? It cannot be said that when the heavens stood still, there would be no inferior real motions either, since the motion of the heavens is a partial cause of all inferior motions; for the Bible story tells

73. II, q.10, (OTh V, 225–26).
74. *Ibid.*, (OTh V, 195).
75. *Ibid.*, (OTh V, 225–26); cf. *Quaest. Physicorum*, q.44, (OPh VI).

us that Joshua and his men fought a battle while the sun stood still. The text of *Quaestiones in libros Physicorum* seems to take this point and allows that when the heavens stood still, an inferior real motion could measure other motions.[76]

(3.2.9) *Summary.* None of the above arguments refutes Ockham's contention that time is motion, but his replies reveal a certain flexibility in his position. For while he thinks that the first motion is the principal means by which we measure duration, he is willing to allow other motions, real and imagined, to fill this role. Thus, Ockham explicitly distinguishes stricter and broader uses of 'time' in both the *Reportatio* and the *Expositio*: (i) 'time' is taken most strictly and properly for the first motion which is uniform, the fastest, and (usually) the best known of motions. Ockham does not bother to decide whether this is the motion of the eighth or ninth heavenly sphere or the motion of the sun or moon.[77] (ii) 'Time' is taken broadly for an inferior motion by the cognition of which we can arrive at knowledge of the superior motion,[78] as when we measure the motion of heavenly bodies with some sort of earthly clock. Ockham notes that whereas time in sense (i) is one and the same for all, in that everyone no matter where he is (with the probable exception of blind people) can use the first motion as a measure of the duration of other motions; time in sense (ii) is not one and the same for all, since I use my watch in Los Angeles, while the Ministers of Parliament in London use Big Ben.[79] Nevertheless, these times, distinct in sense (ii), are equivalent.[80] (iii) Finally, 'time' may be taken for imagined motion, which has only objective existence in the soul as an object of thought and yet is that by which someone can measure the duration of other motions.[81] Would 'time' taken this way be the same for all? Not necessarily,

76. Q.42, (OPh VI).

77. *Rep.* II, q.10, (OTh V, 191); *Expos. Physicorum* IV, t.133, (OPh V).

78. *Rep.* II, q.10, (OTh V, 191–92); *Expos. Physicorum* IV, t.133, (OPh V); *Quaest. Physicorum*, q.43, (OPh VI); q.58, (OPh VI).

79. *Rep.* II, q.10, (OTh V, 228–29).

80. *Ibid.*, (OTh V, 222).

81. *Ibid.* (OTh V, 192); *Expos. Physicorum* IV, t.133, (OPh V); *Quaest. Physicorum*, q.44, (OPh VI); q.48, (OPh VI).

since the motion I imagine may be faster relative to the first motion than the one you imagine. But suppose we both imagine circular motion of the same radius and speed. Would the same objectively existent motion be at once the object of my thought and of yours? Ockham seems to suggest that they would not be the same motions, but that the times would be the same "by equivalence," "since I would measure other motions the same way by your concept if it existed in me as I measure by my concept, and conversely, for you by mine as by yours..."[82]

Ockham considers four objections against his last suggestion, that merely imagined motion can be time, however. (3.2.9.1) First, it is axiomatic that not all the parts of time can exist at once. But all the parts of time and all the parts of imagined motion can exist in the mind at once. Therefore, it seems that no imagined motion can be time, or vice versa.[83] (3.2.9.2) Again, everyone agrees that "the instant that can render past time continuous with the future exists outside the mind. Therefore, time is outside the mind."[84] Further, "time is a *passio* of real being, since it is a *passio* of mind-independent motion. Therefore, it does not have merely objective existence in the mind," since a being of reason could not really inhere in a real being.[85] (3.2.9.4) Finally, real beings and beings of reason are so different that nothing pertains univocally to both. Therefore, merely imagined motion cannot be a measure in the same sense as real, mind-independent motions are, and consequently cannot be time.[86]

Ockham denies that these arguments have any force against his claim. (R3.2.9.1) First, Ockham grants that it is axiomatic that past, present, and future cannot exist in reality simultaneously, but they can exist simultaneously in the mind. Indeed, if they were not apprehended simultaneously—e.g., if a whole revolution of the heavenly sphere or some part of

82. *Rep.* II, q.10, (OTh, 222).
83. *Ibid.*, (OTh V, 206); *Quaest. Physicorum*, q.44, (OPh VI).
84. *Rep.* II, q.10, (OTh V, 207).
85. *Ibid.*, (OTh V, 206).
86. *Ibid.*, (OTh V, 207); *Quaest. Physicorum*, q.44, (OPh VI).

that revolution could not be so apprehended – no one could measure anything by time.[87] (R.3.2.9.2) Second, Ockham replies that "an instant has existence in the mind or in reality outside the mind in the same way as time and motion do."[88] If the motion that is used as a measure is merely imagined, then the principal significatum of 'instant' is imagined; if it exists in reality independently of the mind, then so does the principal significatum of 'instant'. (R.3.2.9.3) Ockham has replied to the third objection before: viz., that time is not a real *passio* of motion in the sense of being some real "accident that formally inheres in something else," but only in the sense that 'time' is predicated of 'motion' *per se* in the second way.[89] (R.3.2.9.4) Against the fourth, Ockham charges that where 'univocal' is taken broadly for any predicate concept that is unvaried in being predicated of many, 'measure' can be univocally predicated of both real and objectively existent motions. For he insists that "we can measure by a quantity in the soul just as well as by a mind-independent quantity; similarly by a motion."[90]

(3.3) *Ockham's Construal of Common Claims about Time and Instant.* In the light of the above, Ockham thinks he can explain how certain claims made by the Philosopher and the Commentator should be understood. (3.3.1) Regarding time, 'Time exists' does not imply that any thing (*res*) really distinct from permanent things exists. Rather, just as 'Motion exists' means only 'Something is moving', so 'Time exists' means 'Something is in continuous and uniform motion at the fastest speed, and the soul recognizing the before and after of this motion can measure the duration of other things thereby'.[91] Likewise, just as 'The parts of motion are not simultaneous' means only 'The movable object is not simultaneously in distinct places' and 'Some parts of motion are prior and some posterior' means only

87. *Rep.* II, q.10, (OTh V, 227–28); cf. *Quaest. Physicorum*, q.44, (OPh VI).

88. *Rep.* II, q.10, (OTh V, 228).

89. *Ibid.*; cf. *Quaest. Physicorum*, q.44, (OPh VI).

90. *Rep.* II, q.10, (OTh V, 228); cf. *Quaest. Physicorum*, q.44, (OPh VI).

91. *Expos. Physicorum* IV, t.103, (OPh V); cf. *Summulae Physicorum* IV, c.5, 89–90, (OPh VI); *Quaest. Physicorum*, q.39, (OPh VI).

'The movable object is in one situation before it is in another situation',[92] so 'Some of the parts of time are prior and some posterior' abbreviates 'Something is in continuous and uniform motion at the fastest speed, the whole and parts of which are in one situation before they are in another, in such a way that a perceiving mind can measure the duration of other things thereby'.[93] And 'Time is composed of the past and the future' is false if taken to mean 'Time is some one thing (*res*) distinct from all others and really composed of the past and the future', but is true in its intended sense: viz., that 'time' signifies something to be past and something to be future, in such a way that both may be mentioned in the nominal definition of 'time'.[94]

(3.3.2) Just as 'time' is not an absolute term signifying any thing (*res*) really distinct from permanent things and from motion, so "'now' is a temporal adverb that signifies something permanent really to exist and not to be past or future but present. Therefore, it does not signify any one determinate thing or have a finite signification the way categorematic nouns do..."[95] In particular, "the adverb 'now' signifies precisely and chiefly the first movable object. Likewise the participle 'instant' (*instans*) and 'present' (*praesens*) signify the first movable object primarily..."[96] and they connote that the first movable object is in a situation that it was not in immediately before and will not be in immediately afterwards.[97] Thus, insofar as the first movable object is said to be in different situations, to that extent the now so numbered is said to be different,[98] or even to be defined differently.[99]

92. *Expos. Physicorum* IV, t.103, (OPh V).
93. *Ibid.*
94. *Ibid.*, t.89, (OPh V); *Quaest. Physicorum*, q.39, (OPh VI).
95. *Expos. Physicorum* IV, t.93, (OPh V).
96. *Ibid.*, t.104, (OPh V).
97. Cf. *Summulae Physicorum* IV, c.8, 91, (OPh VI); *Quaest. Physicorum*, q.56, (OPh VI).
98. *Expos. Physicorum* IV, t.104, (OPh V).
99. *Ibid.* Aristotle defines the place of anything as the first unmoved boundary of what surrounds it. Ockham notes, accordingly, that it is not strictly correct to speak of the first movable object as being *in different places* successively. For if the first movable object is the outermost heavenly sphere, then there is nothing surrounding it, so that the parts of the heavenly

Ockham says that the common claim 'An instant distinguishes between the past and the present and joins them' refers to the fact that the present instant is somehow a mean between the past and future. For what is past coexisted with many extremes of a contradiction and now does not, while the future will coexist with some contradictories and now does not; but the present now coexists with one part of a contradiction and earlier did not coexist with it or any other.[100] Likewise, an instant is said to be indivisible because it coexists with one part of a contradiction and not with another.[101] What Ockham seems to have in mind is that 'This part of the heavens existed at $p_1$ but not at $p_2$, and this part of the heavens existed at $p_2$ and not at $p_1$' is true about the past; 'This part of the heavens will exist at $p_4$ and not at $p_5$ and this part of the heavens will exist at $p_5$ and not at $p_4$' the future; but 'This part of the heavens exists at $p_3$ and not at $p_2$ and this part of the heavens exists at $p_2$ and not at $p_3$' cannot be true about the present. As for 'Sudden change is measured in an instant', it is false taken literally, since only quantity can be measured and sudden change has no quantity. Nevertheless, Ockham explains, people make this assertion because, like 'instant', 'sudden change' signifies a thing and connotes the negation immediately preceding it; it coexists with one part of a contradiction and not another or with two at once.[102] Consider, for example, the sudden change involved when a human being is produced in existence for the first time. At the moment at which the sudden change occurs, it is true to say that this human being exists and that he did not exist immediately before.

Returning to Aristotle's question—whether now remains always the same or is always different—with the above in mind,

sphere would coexist with first one part of it and then another (*ibid.*). In the *Expositio*, Ockham tries to get around this difficulty by moving to counterfactuals: if there were a body surrounding it, then part of the heavenly sphere would coexist with first one part of the surrounding body and then another (IV, t.104, (OPh V)).

100. *Rep.* II, q.10, (OTh V, 220, 217).

101. *Ibid.*, (OTh V, 217).

102. *Ibid.*, (OTh V, 219–220).

it becomes clear that

> strictly speaking, it should not be granted that the same now always remains, as if it were a thing that remains in existence continually. Nor should it be granted that there are different nows, as if there were one such thing after another...[103]

Rather the same heavenly sphere persists throughout world history, but is in different places successively.[104]

(3.4) *Measure and Mind-Independence.* Aristotle characterizes time as a measure of motion. But, as we have seen, measure is an epistemological notion, "since a measure is that through which the mind should make certain about an unknown quantity."[105] Thus, Aristotle writes,

> Whether if soul did not exist time would exist or not, is a question that may fairly be asked: for if there cannot be someone to count, there cannot be anything that can be counted, so that evidently there cannot be number; for number is either what has been, or what can be, counted. But if nothing but soul, or in soul reason, is qualified to count, there would not be time unless there were soul, but only that of which time is an attribute, i.e., if movement can exist without soul, and the before and after are attributes of movement, and time is these qua numerable.[106]

How can anything be counted if there is no one to count? If there is no one to tell time, can there be any time to tell? Everyone would agree that '$x$ is actually counted and no

103. *Expos. Physicorum* IV, t.93, fol.56va, (OPh V).

104. At this point it may seem that Ockham's position is not so different from that of Giles of Rome. Giles says that now is really the same as the heavens, which remain the same throughout world history, but that different nows are distinct in reason from one another insofar as different concepts signify the heavens first to be in one position and then in another. Ockham says that the term 'now' principally signifies the heavens and connotes that they are in a certain position that they were not in immediately before and will not be in immediately after. The difference between Giles and Ockham on this point are analogous to those between Ockham and Henry of Harclay regarding universals (see Part One, chapter 2 above).

105. *Summulae Physicorum* IV, c.16, 101, (OPh VI).

106. *Physics* IV, 14, 223a22–28.

counter exists' is contradictory. But the question could also be about the truth of 'No counter exists and it is possible for $x$ to be counted'. Ockham says that even if no counter existed, it would be possible for $x$ to be counted, if it were possible for a counter to exist. As for whether time could exist without the soul, that all depends on how 'time' is defined. If the term 'time' consignifies that the soul is actually numbering the before and after in motion, then 'The soul does not exist; therefore time does not exist' would hold good, since if nothing is actually numbering, then nothing is actually numbered.[107] The text of *Quaestiones in libros Physicorum* puts the point differently: "the proposition 'Time can exist without the soul' is true when the subject is taken [to supposit] for what exists, since the motion that is time can exist without the soul. Likewise, the proposition 'Motion can exist without the soul' is true. But the proposition 'Time can be time without the soul' is false, because the predicate appellates its own form, but the subject does not."[108] On the other hand, if the nominal definition of 'time' includes the disjunction '*either* the soul is actually numbering the before and after in motion *or* the soul is able to number the before and after', then 'It is impossible for the soul to exist; therefore it is impossible for time to exist' would hold.[109] But 'The soul does not exist; therefore time does not exist' fails, if what there is to time besides the soul numbering can exist when the soul does not exist.

What else is involved in time? Aristotle says, "numerable succession or the before and after in motion." And we have seen in section 1 above how medievals disagreed widely regarding the mind-independence of the before and after in motion. Peter Aureol had said that time—whether as a continuum or insofar as before and after are actually counted in it—exists only in the

107. *Expos. Physicorum* IV, t.131, (OPh V).

108. Q.40, (OPh VI).

109. *Expos. Physicorum* IV, t.131, (OPh V); cf. *Summulae Physicorum* IV, c.16, 101–102, (OPh VI). Ockham believes that Aristotle and Averroes use 'time' both ways, although he thinks Aristotle prefers the former (*Expos. Physicorum* IV, t.131, (OPh V)).

mind.[110] Henry of Ghent and Giles of Rome maintained that time exists as a continuum independently of the mind, but as distinct with respect to before and after only in the mind. Thus, according to them, time is partly outside the mind —potentially and materially—and partly in the mind—actually and formally. But Albertus Magnus[111] and William of Alnwick[112] insisted that before and after of motion—its formal aspect—actually exist independently of the mind, and not merely potentially. The soul is only the efficient cause of their being numbered. And Walter Burleigh held that time is something really distinct from and inhering in motion, by virtue of which motion is extended in time—and this independently of any activity of the soul.[113]

Ockham's own view is that (i) 'time', taken in its strictest sense, principally signifies the same thing as 'first motion' signifies—viz., the heavenly sphere that moves with maximum speed and uniformity.[114] And it neither signifies nor consignifies anything mind-independent other than what 'first motion' signifies; rather both signify that this heavenly sphere is moving with maximum speed and uniformity. Ockham takes it for granted that such motion could take place, quite apart from the existence of any created soul or intellect, although none of the medievals would have conceded that it could exist and so move without God.[115] (ii) The same goes for 'time' taken for a uniform inferior motion. Even if no created souls or intellect existed any longer, the hands of my watch might continue to move around at uniform speed, or a radioactive isotope would continue to decay at a regular rate.[116] (iii) 'Time', taken most broadly for imagined motion, cannot, of course, exist in-

110. *Sentences* II, d.2, q.1 (Rome, 1605), quoted in Maier, "Das Zeitproblem," 79–81.
111. Maier, *op. cit.*, 67–68.
112. Maier, *op. cit.*, 75–76.
113. Maier, *op. cit.*, 87–88.
114. *Expos. Physicorum* IV, t.131, (OPh V).
115. *Rep.* II, q.10, (OTh V, 196–97).
116. *Ibid.*, (OTh V, 196).

dependently of the soul.[117] In Ockham's opinion, then, the issue of the mind-independence of time is a verbal and not a real difficulty.

(3.5) *What Does Time Measure?* The answer implied in what has been said so far is "the duration of motions." There are complications, however. For motion is not all that has duration. Do we not measure the duration of other things by time as well? On the other hand, to measure a thing is to determine its boundaries or limits. But some motions—according to Aristotle, the motion of the heavenly spheres—are not limited in duration but perpetual.

In dealing with these points, Aristotle distinguishes two senses in which something may be said to exist in time: (i) Broadly speaking, to exist in time is to exist or coexist with time.[118] The text of the *Quaestiones in libros Physicorum* observes that "not only God but everything that exits, exists in time" in this sense, "because everything that exists coexists with time."[119] (ii) Strictly speaking, however, something exists in time, if and only if it is possible to know through time that it exists so long and no longer—i.e., only if its duration is exceeded by time.[120] Ockham understands Aristotle to hold that time measures only those things that are in time strictly speaking—i.e., only those that can have a finite duration. And since he seems to believe that whatever can have a finite duration does have a finite duration, he maintains that only those whose duration is actually limited are measured by time.

Time is, by definition, primarily a measure of the duration of motion. But not of every motion. For in whichever of the above mentioned three ways 'time' is taken, no time is the measure of each and every motion, since none is the measure of itself.[121] Further, time does not measure perpetual motion insofar as it is

117. *Ibid.*, (OTh V, 197).

118. *Expos. Physicorum* IV, t.117, (OPh V); *Quaest. Physicorum*, q.54, (OPh VI).

119. Q.54, (OPh VI).

120. *Expos. Physicorum* IV, t.117, (OPh V).

121. Cf. *Quaest. Physicorum*, q.48, (OPh VI).

perpetual, although it "does measure the motion of an eternal being...insofar as the motion is of a determinate and certain quantity and not of an infinite quantity..."[122] If, for example, time is the motion of the outermost heavenly sphere, we can use time to measure, say, one revolution in the perpetual motion of another heavenly sphere.[123]

Further, if time primarily measures the duration of motion, it can measure the duration of rest, which is the contrary of motion, *per accidens*.[124] Thus, we might observe that Socrates rested five minutes for every minute that he ran. But "those that are always at rest do not exist in time" and so are not measured by time.[125]

Again, "not only are motion and rest measured by time, but also it can be granted that a movable thing is measured by time—that is to say, it is possible to know through time how long the duration of the movable thing is."[126] Aristotle says that "everything that can be generated or corrupted exists in time and is measured by time";[127] and since for Aristotle whatever can be generated or corrupted, is at some time or other, this is tantamount to saying that whatever exists at some times and not others exists in time.[128] But, as Ockham reads him, Aristotle wants to say that the so-called separate intellectual substances (intellectual substances that exist "separated" from matter) and the heavenly bodies are perpetual and so "are not measured by any measure."[129]

These views of Aristotle are presented without objection in the *Expositio* and in the *Summulae Physicorum*. But in the *Reportatio*, where Ockham's concern is primarily with theological issues, he defends a different conclusion: viz , that even if some creatures were perpetual, everything other than

122. *Expos. Physicorum* IV, t.118, fol.62vb, (OPh V).
123. *Ibid.*
124. *Ibid.*; cf. *Rep.* II, q.10, (OTh V, 201).
125. *Expos. Physicorum* IV, t.118, (OPh V).
126. *Ibid.*, t.118, fol.62va, (OPh V).
127. *Ibid.*, t.119, fol.62vb, (OPh V).
128. *Summulae Physicorum* IV, c.15, 101, (OPh VI).
129. *Ibid.*

God would exist in and be measured by time in the strict sense. His disagreement with Aristotle is demanded by the Christian doctrine of creation. For Aristotle thought (i) that some things other than the unmoved mover—viz., the separate intellectual substances and the heavenly bodies—exist at all times by the necessity of their natures, and (ii) that there can be nothing that is capable of generation and corruption but that remains in fact ungenerated or uncorrupted.[130] But Christian belief stipulates that everything other than God is created by God out of nothing and is conserved in existence by Him for as long as it remains in existence. Thus, nothing other than God exists and endures by the necessity of its own nature. And what ceases to exist after having existed, does so because God wills it to cease to exist and ceases to conserve it in existence. Thus, every creature —whether it is naturally liable to generation and corruption the way material substances are, or naturally incorruptible the way the separate intellectual substances are—can (logically) begin to exist and/or cease to exist. And, on the other hand, God can conserve any creature—whether or not it is naturally liable to generation and corruption—in perpetual existence.[131] Returning to Aristotle's criteria for being in time and measured by time in the strict sense, Ockham agrees that something exists in and is measured by time in the strict sense if and only if it is *possible* to know through time that it exists so long and no longer. It follows from the doctrine of creation that everything other than God is in time and is measured by time in the strict sense.

Having considered which beings are measured by time, Aristotle turns to consider which non-beings are measured by time. His predictable answer is that impossibles—such as the commensurability of the diagonal with the side of the square—and those that never exist are not measured by time.[132] Ockham notes that, taken literally, the proposition 'Some non-beings exist in time' is contradictory, because 'These things exist in time; therefore, these things exist' is a formal inference.

130. E.g., *De caelo* I, 12, 283a25–29.
131. Cf. *Rep.* II, q.11, (OTh V, 243–44).
132. *Expos. Physicorum* IV, t.120, (OPh V).

What Aristotle means, Ockham explains, is that some negative propositions are true for a determinate time and no longer, while others are not. For example, since Socrates is sitting sometimes and standing other times, the proposition 'Socrates is not sitting' is true sometimes and false other times. On the other hand, the proposition 'The diagonal of a square is incommensurable with the side' is always true, of necessity.[133] Following the line taken in the *Reportatio*, Ockham should hold that only impossibles fail to be measured by time in the sense he has outlined.

## 4. THE ONTOLOGICAL STATUS OF TEMPORALIA

Ockham is so preoccupied with the issue of whether time is a thing distinct from permanent things that he does not explicitly confront the question of the ontological status of temporalia. Even if only substances and qualities exist, Ockham recognizes that different substances and qualities exist at different times and the same substances and qualities exist differently at different times. What ontological status does he wish to assign to things or states of affairs that are merely past or merely future? We have examined this question at some length in Part Two, chapter 11 above, but some further taxonomical remarks are now in order.

The question of the ontological status of temporalia may be usefully compared to that of the ontological status of possible worlds. According to the Possibilists,[134] all possible worlds have a common ontological status of being (tenselessly) given, whether or not they are actual. The question for such theories is, what differentiates the actual world from other merely possible worlds. Some philosophers such as Descartes seem to imply that actuality is a simple, unanalyzable property uniquely possessed by one of the possible worlds. Others such as David

133. *Ibid.*

134. Here I follow the labels and taxonomy of Robert Merrihew Adams, in "Theories of Actuality," *Nous* VIII (1974): 211–231.

Lewis adopt an indexical theory of actuality, according to which being actual is a relational property of being co-cosmic with the utterance in which the expression "the actual world" (or its equivalent) is used. Actualists reject such an ontology, maintaining that only actual things are to be numbered among the property-bearers. Soft-actualists say that talk about non-actual possible worlds has to be reduced to talk about actuals. Hard-actualists deny that there are any merely possible worlds, and reject statements implying their (tenseless) givenness as false.

Where time is concerned, the difference between Possibilists and Actualists is paralleled by one between Omnitemporalists and Favoritists. Omnitemporalists think that all temporalia —whether past, present, or future—share an ontological status of being (tenselessly or everlastingly) given. They must then explain what makes the present different from the past and future. Some might claim that being present is a simple unanalyzable property possessed by whatever is present; being past and being future, distinct primitive properties possessed by what is past or future. Indexicalists will say that being present is the property of being simultaneous with utterances or thoughts in which "present" (or its equivalent) occurs. Favoritists deny that there is any ontological status common to all temporalia. Augustine's remark in the *Confessions* that time is nothing independent of the mind anticipating and remembering suggests Soft-Present-Favoritism, according to which only present things are property-bearers and talk about the past and future has to be reduced to talk about the present. Hard-Present-Favoritists would regard all statements about the past and future either as lacking truth-value or false. Charles Hartshorne seems to embrace Past/Present Favoritism, according to which both past and present things are (present tense) given as items in the ontology, but not future things; assertions about the future have determinate truth-value only insofar as it is fixed by past or present states of affairs.

We have seen (in Part Two, chapter 11) that Ockham's remarks on time and temporalia do not clearly reveal whether he would align himself with Omnitemporalists (on the ground

that all possibilia and hence all temporalia are everlastingly given in the ontology, even if they are not everlastingly present, past, or future) or the Favoritists. His uniform assumption that temporal indicators cannot be eliminated in favor of an eternal-present show that he was not an Indexicalist. And his unquestioned assumption that some propositions about the past and the future are true sets him against Hard-Present-Favoritists. In my opinion, the texts do not permit us to pin Ockham down any further on this matter.

# Part Five

## Theology

# 21

# Divine Simplicity, Divine Attributes, and the Meaning of Divine Names

The doctrine of divine simplicity is a centerpiece of medieval theology. Inspired by Greek philosophy, it was important because of the problems to which it gave rise: in metaphysics, of how to reconcile it with a plurality of attributes and ideas in God? In epistemology and psychology, of whether—given divine simplicity—human beings could naturally form any concept of God, and if so, how many and of what sort: whether positive or only negative? whether denominative or quidditative? common or proper? univocal, equivocal, or analogical? And medieval debate about the answers to these questions reflected disagreements about fundamental assumptions in metaphysics, semantics, logic, and psychology, as well as differing judgments in theology.

In this chapter, I shall first describe the motivation behind the medieval doctrine of divine simplicity, and then examine how it affected the accounts of God's attributes and our conceptions of them, as found in Moses Maimonides, Thomas Aquinas, Duns Scotus, and William Ockham. How God's simplicity is compatible with a plurality of ideas in God will be the subject of chapter 24 below.

## 1. MOTIVES FOR THE DOCTRINE OF DIVINE SIMPLICITY

To say that a being is simple is to deny that it is composite. Accordingly, we can better appreciate the meaning of as well as the motives behind the doctrine of divine simplicity, if we examine which features of composites medievals thought had to

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## 1. MOTIVES FOR THE DOCTRINE OF DIVINE SIMPLICITY

To say that a being is simple is to deny that it is composite. Accordingly, we can better appreciate the meaning of as well as the motives behind the doctrine of divine simplicity, if we examine which features of composites medievals thought had to

be excluded from the divine essence. Four seem to be mentioned frequently.

(1) First, all composites are heterogeneous in some way. For example, it may be true of a cathedral but false of many of the stones, pieces of glass, and timbers of which it is constructed, that it is of Norman design. And, as Aquinas notes, even where a whole of similar parts is concerned, e.g., a volume of air or water, something will be true of the whole that is not true of each part, e.g., that it occupies two cubic feet.[1] Indeed, it is trivial that if $x$ is compounded from $C_m$ and $C_n$ (where $C_m \neq C_n$), something will be true of $x$ that is not true of either $C_m$ or $C_n$—viz., that it is compounded of both $C_m$ and $C_n$. But Aquinas and Scotus maintain further that the perfection of a part differs from and is exceeded by the perfection of the whole.[2] Whatever value or perfection there may be in a piece of stone or glass, it probably is different from that of the Norman cathedral of which it is a part. For the perfection of the latter—even if it includes the beauty of the stone or glass—consists in large measure in the aesthetic value of the design according to which its parts are arranged. Whether the perfection of the whole always exceeds the perfection of the parts, seems doubtful—for there may be very beautiful glass in an otherwise very ugly church. At any rate, God is supposed to be maximally perfect, the highest good. That means that if He were a composite, the maximum degree of perfection $M$ would pertain to that composite. But since the perfection of the whole is different from the perfection of the parts, they reasoned, the perfection of His parts would be different from and accordingly less than the maximum degree $M$. And God would not, as it were, be maximally perfect "through and through"—which they denied.

(2) Second, Anselm and Aquinas[3] observe that every composite is posterior to its components. "Posterior" here seems to

1. *Summa theologiae* I, q.3, a.7.

2. Aquinas, *Summa contra gentiles* I, c.18; *De potentia*, q.7, a.1, (Bazzi ed., 189). Scotus, *Lectura* I, d.8, q.1, p.1, n.26–27, (Vaticana XVII, 8); *Ord.* I, d.8, p.1, q.1, n.17–18, (Vaticana IV, 160–61).

3. Anselm, *Monologium*, c.17; Aquinas, *Summa theologiae* I, q.3, a.7.

be synonymous with "made out of" or "compounded from," and the premiss thus appears tautologous. But it seems contrary to the characterization of God as the supreme nature or first being to suppose that there are any components $C_m$ and $C_n$, neither of which, taken alone, is God, but out of which God is made or compounded. Rather everything that is not God was made by God out of nothing.

Thus characterized, composites seem to include anything that has distinguishable components of some sort or other. And arguments based on the above two features of composites would, if sound, yield the conclusion that God is simple in the following sense:

(A) '$x$ is simple' = df. '$x$ has no components of any sort'.

The next two features suggest alternative understandings of composition and simplicity.

(3) Aquinas observes that

(a) Composition is only from diverse things and diverse things themselves need an agent to unite them.[4]

(b) Every composition is potentially dissoluble.[5]

And he concludes that since God is the first efficient cause, He cannot be composite. Scotus argues that God cannot be a compound of matter and form for the same reason.[6] (a) and (b) would not seem to be true about everything that lacked homogeneity, however. What if some being $x$ were compounded from $C_m$ and $C_n$ (where $C_m \neq C_n$), and yet it was logically impossible that $C_m$ exist without $C_n$ and logically impossible that $C_n$ exist without $C_m$, whether in $x$ or in anything else? In that case, no efficient cause would be needed to explain why

4. *De potentia*, q.7, a.1, (Bazzi ed., 189); *Summa contra gentiles* I, c.18; *Summa theologiae* I, q.3, a.7.

5. *Summa contra gentiles* I, c.18.

6. *Lectura* I, d.8, p.1, q.1–2, n.10–12, (Vaticana XVII, 3–4); *Ord.* I, d.8, p.1, q.1, n.9–10, (Vaticana IV, 155–56).

$C_m$ and $C_n$ exist together in $x$; for it would be logically impossible that they should do otherwise. Nor would $x$ be potentially dissoluble, since it would be logically impossible for $x$ to be destroyed by separating $C_m$ and $C_n$. Thus, (a) and (b) are true, only where composites are understood to be restricted to entities whose parts are logically separable, so that '$x$ is composite, only if $x$ is compounded out of $C_m$ and $C_n$ (where $C_m \neq C_n$) such that it is logically possible that $C_m$ exist without $C_n$ and/or logically possible that $C_n$ exist without $C_m$, whether in $x$ or anything else' would be true.

(4) Different composites have different degrees of unity. A pile of logs or pennies are merely aggregated or collected together; they do not have that paradigmatic unity that composite substances have. The components of such substances—matter and one or more substantial forms—are said to unite to make something that is absolutely or *per se* one. And we have seen that a composite is assigned that degree of unity, only if one of its components has potentiality that the other actualizes (see Part IV, chapters 15–16 above). Thus, Aquinas and Scotus agree that in a human being, matter is in potentiality with respect to being inhered in by substantial form; genus is in potentiality with respect to various differentiae; and the nature as a whole is in potentiality with respect to the contracting difference. In each case, the former is indeterminate and determinable and in potentiality with respect to being rendered determinate in any one of a number of ways: matter is in potentiality with respect to any substantial form that is not inhering in it, and the inherence of a substantial form renders it determinate with respect to one as opposed to the others. Similarly, according to Scotus, human nature of itself is indeterminate and determinable with respect to Socrates' thisness, Plato's thisness, etc; and its combination in Socrates with Socrateity makes it Socrates' humanity rather than Plato's. Thus, $x$ is a composite that possesses the highest unity possible for composites, only if $x$ is compounded from components $C_m$ and $C_n$ such that (i) $C_m$ is indeterminate and determinable and in potentiality with respect to being rendered determinate by $C_n$, or vice versa; and (ii) it is logically possible that $C_m$ be rendered determinate by

something other than $C_n$, or vice versa; and therefore (iii) it is logically possible that $C_m$ exist without $C_n$ in something other than $x$, or vice versa.

If God were a composite, His unity would not be merely that of an aggregate or a collection, but rather the highest unity possible for composites. Hence, His components would have to be related as potency to act in the above way. But Aquinas argues that as first cause, God contains no potentiality of any kind.[7] And Scotus argues that since God is infinite, nothing in God can be in potentiality with respect to anything else in God, the way genus is in potentiality with respect to differentiae. For the differentia adds something to the genus; but what is infinite cannot be added to. And the differentia limits the genus to one species as opposed to another; whereas what is infinite is really the same as whatever is compossible with it.[8]

Yet, it can be true that the above described unity is the highest that composites can attain to, only if composites exclude entities with logically inseparable components. For it would appear that $x$ would have less unity by virtue of meeting conditions (i)–(iii) than it would have if it were compounded from components $C_m$ and $C_n$ such that it is logically impossible that $C_m$ exist without $C_n$ whether in $x$ or anything else, and logically impossible that $C_n$ exist without $C_m$ whether in $x$ or anything else. It seems, therefore, that the last two arguments presuppose the following analysis of 'composite':

(B) '$x$ is composite' =df. 'x is compounded from components $C_m$ and $C_n$ (where $C_m \neq C_n$) such that it is logically possible that $C_m$ exist without $C_n$ whether in $x$ or in something else, and/or logically possible that $C_n$ exist without $C_m$ whether in $x$ or in something else'.

And if sound, they would establish the conclusion that God is

7. *In I Sent.*, d.8, q.4, a.1, ad 2, (Parma VI, 76); *Summa contra gentiles* I, c.18; *Summa theologiae* I, q.3, a.7.

8. *Lectura* I, d.8, p.1, q.3, n.102, (Vaticana XVII, 34); n.118, (Vaticana XVII, 41); n.125, (Vaticana XVII, 45); and *Ord.* I, d.8, p.1, q.3, n.108, (Vaticana IV, 200); n.106–107, (Vaticana IV, 201–202).

simple in the corresponding sense:

(C) '$x$ is simple' = df. 'It is not the case that $x$ is compounded from components $C_m$ and $C_n$ such that it is logically possible that $C_m$ exist without $C_n$ whether in $x$ or in something else, and/or logically possible that $C_n$ exist without $C_m$, whether in $x$ or in something else'.

Whatever is simple in the sense defined by (A) is also simple in that defined by (C); for what lacks components of any sort lacks logically separable components. But not everything simple in sense (C) is simple in sense (A); for an entity with logically inseparable components satisfies the right-hand side of the former but not the right-hand side of the latter. Thus, someone who believed that God was simple in the stronger sense (A) could consistently argue that He was simple in the weaker sense (C). In fact, Aquinas offers arguments for both conclusions without betraying any awareness that he is presupposing two different concepts of simplicity.[9]

## 2. DIVINE SIMPLICITY AND THE NEGATIVE WAY

When the doctrine that God is simple in sense (A) was combined with further metaphysical and semantic assumptions, however, it became difficult to see how traditional claims of divine goodness, wisdom, and power should be understood.

The metaphysical assumption was that properties count as components. But not all properties. Two qualifications were made. First, a distinction was drawn between negative and positive properties. Only distinguishable positive, not negative, properties were thought to introduce complexity into a thing. If one says, for example, that something is a white horse, on this view, one is implying that there are two parts in the thing—horsehood and whiteness. But if one says that some-

9. *De potentia*, q.7, a.1, (Bazzi ed., 189–190); *Summa contra gentiles* I, c.18; *Summa theologiae* I, q.3., a.7.

thing is not white and not a horse, one is not, according to this view, asserting that anything has two parts—non-horsehood and non-whiteness. Rather one is denying that it does have the two parts, horsehood and whiteness, and affirming nothing about the parts (if any) that it does have. Traditionally, the form of linguistic expression was not regarded as an infallible guide to the distinction between positive and negative properties. Neither the word "not" nor the prefix "non" occurs in the sentences 'Homer was blind', 'The closet is dark', and 'Hitler was evil'. Nevertheless, blindness, darkness, and evil were typically classified as negative rather than positive properties, because they were thought to signify merely the privation of sight, light, and virtue, respectively. Similarly, simplicity, infinity, and immutability were thought of as negative properties, signifying the absence of parts, of limitations, and of change, respectively. Second, not all distinguishable relational properties were thought to introduce complexity into a thing. For example, the fact that something has the distinguishable relational properties of being the greatest thing in the universe and of being the thing least easily accessible to human knowledge, was not thought, of itself, to show that the thing was complex. The reason is that whether or not a thing has these relational properties depends on the existence and properties of other things. But all positive, non-relational properties were regarded as components so that anything that has a plurality of positive, non-relational properties must thereby include a plurality of constituents.

The semantic assumption was that statements of the form '*x* is *F*', where *F*-ness is a positive, non-relational property, are to receive a "part/part" analysis. That is, we are to take it that '*F*' stands for one component—the property *F*-ness—and '*x*' for a distinct component—the property-bearer; and the copula signifies the inherence of the former in the latter. Thus, the assertion of a single positive, non-relational property about a thing posits two components in the thing—the property-bearer and the property.

Plotinus seems to have adopted this analysis. For starting from the claim that the One is simple in sense (A), he concludes

that it would be incorrect to say even that the One is,[10] since that would be to posit a duality of property-bearer and property in the One. And under the influence of Neoplatonism, theologians took over these metaphysical and semantic postulates, and inferred that no positive, non-relational properties can be truly predicated of God. Thus, Boethius, having said that God is a simple form, argues that He cannot be a subject (*On the Trinity*, II). Psuedo-Dionysius endorses this conclusion in parts of *On Divine Names*, and Maimonides insists on it in his famous discussion in the *Guide for the Perplexed*.[11] Nevertheless, Maimonides acknowledges that this consequence poses immediate and obvious theological problems. For the Scriptures repeatedly assert that God is living, good, wise, powerful, etc., thereby seeming to imply that He has not only one, but a plurality of positive, non-relational properties. If the Scriptural claims are not simply to be contradicted, some account must be offered of how they are to be understood.

Maimonides responds to this difficulty with his classic statement of the Negative Way. If a plurality of positive, non-relational properties in a thing renders it composite, a plurality of negative attributions need not compromise its simplicity. Thus he maintains that while such statements as 'God is living', 'God is good', 'God is wise', 'God is powerful', etc. appear to ascribe a plurality of positive, non-relational properties to God, they are really covert negative attributions. Properly understood, 'God is living' does not assert that the positive non-relational property of life inheres in God, but rather that God is not dead, where 'not' has the force of 'not the kind of thing that could be'.[12] Similarly, 'God is powerful' expresses the claim that He is not the kind of thing that could be weak; 'God is wise', that He is not the kind of thing that could be ignorant. And in general, statements that appear to affirm positive, non-relational properties of God are to be understood as denying that God is the kind of thing that could have the contraries of those positive,

10. *Enneads* V.4.1, (MacKenna trans., 43–44).
11. Chap.50–58, trans. M. Friedlander, (New York, 1956).
12. *Guide*, chap.58.

non-relational properties. Once the above mentioned statements are given such a negative analysis, they are no longer inconsistent with the claim that God is simple in sense (A). For it may well be true of what has no constituents of any sort, that it is not the kind of thing that could be dead, evil, weak, or foolish.

Most of Maimonides' successors regarded his solution to this so-called problem of attribution as inadequate, however. (1) Aquinas objects that on Maimonides' view, "no reason could be given why one name is assigned to God rather than another." For if the Scriptures and the Saints say that God is living, meaning thereby only that God is not dead, would they not have just as much reason to say that God is a body, expressing thereby only that God is not pure potentiality the way prime matter is.[13] Aquinas's point could be developed even further. Let *F* and *G* range over terms such as 'good' and 'evil' that are contraries as ordinarily used. 'God is *F* (in Maimonides' sense)' is analyzed by and therefore logically equivalent to 'God is not the kind of thing that could be *G* (in the ordinary sense)'. If God is simple in sense (A), then He is, by Maimonides' own accounting, not the kind of thing that could have any positive, non-relational properties. Hence, He is not the kind of thing that could be living, good, wise, or powerful in the ordinary senses of those terms. And moving from the right-hand to the left-hand side of Maimonides' analysis, we can infer that God is dead, evil, foolish, and weak in Maimonides' sense. Thus, if the authors of Scripture and the Saints had understood terms in the way Maimonides suggests, they would have had no more reason to say that God is living—meaning that He is not the kind of thing that could be dead in the ordinary sense—than to say that God is dead—meaning that He is not the kind of thing that could be living in the ordinary sense; no more reason to say that He is good than that He is evil; to say that He is powerful than that He is weak; or that He is wise than that He is foolish. But we never read in the Scriptures or the writings of the Saints that God is dead, evil, weak, or foolish. It seems unlikely, therefore, that

13. *Summa theologiae* I, q.13, a.2.

they intended their claims that God is living, good, wise, and powerful in the way Maimonides suggests.

Maimonides would probably not have regarded this objection as fatal to his analysis. Replying in a manner typical of the *Guide*, he might have contended that Biblical writers would have agreed that God is dead, evil, foolish, and weak (in Maimonides' sense), just as much as He is living, good, wise, and powerful (in Maimonides' sense). Nevertheless, they would have had reason to include the latter and not the former in the Scriptures. For they might have feared, with considerable justification, that people reading the Bible would take these words in their ordinary senses and so misconstrue their intentions. And the Biblical writers might well have reasoned that it would be a worse mistake to suppose that God is *literally* dead, evil, foolish, and weak, than to suppose that He is *literally* living, good, wise, and powerful. Hence they confined themselves to saying that God is living, good, wise, and powerful (in Maimonides' sense), and omitted to mention that He is dead, evil, foolish and weak (in Maimonides' sense).

Such a reply notwithstanding, plausibility is on Aquinas's side when he says that Maimonides' analysis "goes against the intention of those who were speaking about God. For when they say that God is living, they intend to say something other than...that He differs from inanimate bodies."[14] After all, if that is what they thought, it would have been easy enough to say so explicitly.

(2) Second, Maimonides' negative way is really in danger of leaving us with no positive conception of God at all. Whenever we encounter a statement that appears to ascribe a positive non-relational property to God, Maimonides instructs us to understand it as a negative claim of the above mentioned sort. The net result of following this procedure will be the conclusion that God is not the kind of thing that could have any of the positive, non-relational properties with which we are familiar. Yet, Aquinas and Scotus insist that we must have at least some positive concept of God, however, meager, if the theological

14. *Ibid.*

enterprise is to get off the ground. Scotus argues that negations such as 'not living' can be taken in two ways: either purely negatively, or somehow positively as equivalent to 'something that is not living'. If they are taken purely negatively, then they are truly predicated of nothing or a chimera, just as much as of God. Thus, if the claims that God is living, good, wise, and powerful are to tell us something about God that is not just as true about nothing or a chimera, we must have at least some positive concept of God as something that is not living, etc.[15]

Maimonides, in effect, concedes this point, and allows that we can know that God is something in that He exists, although He does not have His existence as an attribute any more than He has goodness as an attribute. Rather His essence is identical with His existence.[16]

A theologian who denies that God has any positive, non-relational properties would not, in any case, be forced to rely exclusively on negative attributions in his attempts to characterize God. For it was allowed above that a thing may be related to many others without thereby being rendered complex. And all agree that God is related to everything other than Himself as the first cause of its existence. Thus, Aquinas notes the view of some who say that 'God is good' does not assert the inherence of the positive, non-relational property of goodness, but that God is the cause of goodness in creatures; God is said to be wise, not because the positive, non-relational property of wisdom inheres in Him, but because He is the cause of wisdom in creatures; etc.

Aquinas objects to this analysis, as he did to Maimonides', that it affords no rationale for applying one name to God rather than another.

> ...For God is the cause of bodies, just as much as He is the cause of good things. Thus, if the claim 'God is good' signifies only 'God is the cause of good things', it will likewise be possible to say that God is a body because He

15. *Ord.* I, d.3, p.1, q.1–2, n.10, (Vaticana III, 5); cf. d.8, p.1, q.3, n.73, (Vaticana IV, 186). Cf. Aquinas, *De potentia* I, q.7, a.5, (Bazzi ed., 198).

16. *Guide*, chap.57, (Friedlander trans., 80); chap.58, 82.

is the cause of bodies...[17]

In the same vein, Ockham acknowledges that "I can say tha God is good because He is the cause of or more excellent tha created goodness," but by the same token, "I may say that Go is an angel, because He is the cause of and more excellent tha an angel. And I may say that He is a donkey for the sam reason."[18] On the contrary, Aquinas contends,

> Therefore, when it is said that God is good, the sense is not that God is the cause of goodness or that God is not evil. Rather the sense is that what we call goodness in creatures, preexists in God and does so, to be sure, in a higher way. Thus, it does not follow that being good pertains to God insofar as He causes goodness, but rather the other way around: because He is good, He diffuses goodness into things..."[19]

And he goes on to insist that many true affirmative proposition about God can be formed.

## 3. AQUINAS'S SOLUTION TO THE PROBLEM OF ATTRIBUTION

In *Summa theologiae* I, q.13, a.12, Aquinas acknowledge that there is a problem about how any positive attributions ca be made concerning a being that is simple in sense (A):

> Further, Boethius, in *On the Trinity*, says that a simple form cannot be a subject. But God is a simple form in the highest degree, as has been shown above (q.3, a.7). Therefore, He cannot be a subject, but everything concerning which an affirmative proposition is formed is taken as a subject. Therefore, an affirmative proposition cannot be formed concerning God (obj.2).

His initial reaction is, in effect, to reject the semantic assump tion that led to the negative way—viz., that the true predicatio of a positive non-relational property of a thing posits a duality

17. *Summa theologiae* I, q.13, a.3.
18. *Ord.* I, d.22, q.1, (OTh IV, 53).
19. *Summa theologiae* I, q.13, a.2; cf. q.13, a.6.

of constituents in that thing—and to replace it with another. Developing his reply, Aquinas first points out that words do not signify things directly, but indirectly by means of conceptions (*conceptiones*):

> ...according to the Philosopher, words are signs of acts of understanding (*intellectus*), and acts of understanding are likenesses of things (*res*). And so it is evident that the words referred to the things to be signified by means of a concept of the intellect. Therefore, a thing can be named by us only insofar as it can be conceived of by us.[20]

Aquinas identifies conceptions with something real inhering in the mind, whereas he explains that the *ratio* is the intentional object of the conception.[21] And he maintains that

> ...In any true affirmative proposition, it is necessary that what the predicate and subject signify is somehow the same so far as the thing is concerned (*secundum rem*) but different so far as the *ratio* is concerned (*secundum rationem*). This is clear both for propositions with accidental predicates and those with substantial predicates. For it is obvious that a man and a white are the same in subject but differ in *ratio*. For the *ratio* of man is different from the *ratio* of white. Likewise, when I say 'A man is an animal'. For that which is a man is truly an animal, because in the same supposit there is both the sensible nature from which it is called an animal and the rational nature from which it is called a man. Thus, here too the predicate and the subject are the same so far as the supposit is concerned but different in *ratio*...[22]

Thus, on Aquinas's view, true affirmative predications about a thing do not necessarily posit any plurality of components in the thing, but only a plurality of *rationes* by means of which we conceive of it. And he contends that a plurality of positive attributions can be made about God, because the attributes of goodness, wisdom, etc. are many and diverse in *ratio*, but really

20. *Ibid.*, a.1; cf. *Summa contra gentiles* I, c.35: "...a name signifies a conception of the intellect prior to signifying a thing..."

21. *In I Sent.*, d.2, q.1, a.3, (Parma VI, 23); compare to Part One, chapter 3 above.

22. *Summa theologiae* I, q.13, a.12.

the same in God.[23]

If God is genuinely simple in sense (A), however, how is it that we can conceive of Him by the requisite plurality of *rationes*? Aquinas replies that we do so, because our concepts represent Him imperfectly. The only perfect conception of the divine essence is the Divine Word itself. But even if a created intellect were able to apprehend the divine essence directly, as humans will be able to do only in the next life, it would not be able to apprehend the whole in a single conception.[24] For it is impossible for any created conception to represent the whole perfection of the divine essence. As it is, however, the natural ability of the human intellect extends only to the abstraction and manipulation of concepts derived from material things. Thus,

> ...our intellect cannot apprehend simple and subsisting forms as they are in themselves, but apprehends them according to the mode of composites, in which there is something that is the subject and also something that inheres. Therefore, it apprehends a simple form in the *ratio* of a subject and attributes something to it.[25]

Since we cannot naturally have a vision of God in this life, all our concepts of Him must be derived from our experience of creatures. But whereas God is all perfection in absolute simplicity, creatures represent perfections in multiplicity and in compounds of matter and form, essence and existence. Thus, in deriving our concepts of perfections from our experiences of creatures, we get diverse concepts of perfections and signify diverse perfections by diverse words.[26] In conceiving of God as being all perfections, we thus use a multiplicity of concepts, which multiplicity is just what is needed for us to be able to

23. *In I Sent.*, d.2, q.1, a.3, (Parma VI, 23): "...wisdom and goodness and all others of this sort are altogether one thing in God, but they differ in *ratio*..." Cf. a.2, (Parma VI, 22); *Summa theologiae* I, q.13, a.4, ad 3.

24. *In I Sent.*, d.2, q.1, a.3, (Parma VI, 24); cf. *Summa theologiae* I, q.12, a.7.

25. *Summa theologiae* I, q.13, a.12, ad 2.

26. *Summa contra gentiles* I, c.31; *Summa theologiae* I, q.13, a.4.

form affirmative subject-predicate propositions about Him.[27] So far, Aquinas's account does seem to preserve divine simplicity in sense (A). He has claimed that the reason we are able to form affirmative subject-predicate statements about the divine essence is that our intellects conceive of it only imperfectly. At this point, however, one might object that if the concepts represent God's perfection only imperfectly, then it would seem that propositions framed using these concepts could not perfectly represent the facts about God. And if not, it is not clear how any affirmative predications made about God could be "perfectly true."

In response to this objection, Aquinas would agree that the statement 'God is wise' does not tell us as much about God as 'Socrates is wise' tells us about Socrates. And he would appeal to his doctrine that perfections are predicated analogically, not univocally or equivocally, of God and creatures, to explain how 'God is wise' can assert something true about God, although it does not assert the whole truth. To understand Aquinas's account of how positive attribute terms (such as 'living', 'good', 'wise', 'powerful', etc.) do and do not adequately signify the divine perfection, we must take note of two distinctions. (1) The first is that between the thing signified (*res significata*) by a term and the mode of signifying (*modus significandi*). Sometimes, Aquinas calls the referent of a term the "thing signified." In this context, however, the thing signified by a term is not the referent of the term, but something that is common to all the referents of a term. Where words have to do with natures, the thing signified by the word is the nature or essence.[28] The words 'man' and 'white' signify the essence of

27. *De potentia*, q.7, a.6, (Bazzi ed., 202).

28. *Summa theologiae* I, q.13, a.1: "...sicut hoc nomen 'homo' exprimit sua significatione essentiam hominis secundum quod est: significat enim eius definitionem declarantem eius essentiam; ratio enim quam significat nomen est definitio." Commenting on the notion of *res significata* in Aquinas's writings, Jan Pinborg writes, "Die Wörter bedeuten so primär die Begriffe und sekundär die Sachen, die wir durch die Begriffe erkennen. In den Begriffen erkennen wir nämlich das Wesen der Sachen ohne die partickularen Zufälligkeiten, die der Sachen anhaften. Die *res significata* ist also das Wesen

man and the essence of white respectively.[29]

The distinction between the thing signified and the mode of signifying arises where there are different modes of signifying a thing. Sometimes quasi-grammatical modes were distinguished. 'Man' and 'men' signify the same thing—the essence of man. But the former signifies it together with the singular, and the latter with plural number. Again, 'walks', 'walked', and 'will walk' all signify the same thing—the essence of the activity of walking. But 'walks' signifies it together with present time; 'walked' together with past time; and 'will walk' together with future time. Here the modes distinguished are in part grammatical and in part semantical. Sometimes modes represent different kinds of the same thing. For example, dogs, philosophers, and angels, all have knowledge. But dogs have only sensation together with sensory memory, philosophers have reason, and angels understand things by contemplating innate ideas. The thing signified is the same in each case; but the mode of signifying is different because the knowledge is of a different kind in each case.

(2) The second distinction is drawn between the thing *from* which a word is imposed to signify and the thing *for* signifying which a word is imposed.[30] In the case at hand, Aquinas thinks that words such as 'good', 'wise', and 'being' are imposed *for* signifying "perfections absolutely apart from any defect"[31] and

des betreffenden Sachen..." (*Die Entwicklung der Sprachtheorie im Mittelalter*, in *Beiträge zur Geschichte der Philosophie und Theologie des Mittelalters*, Band XLII, Heft 2, 36). In *On Being and Essence*, Aquinas distinguishes three senses of 'essence'. It must be essence taken as a whole and absolutely that Pinborg has in mind when he identifies the thing signified as the essence.

29. Aquinas makes clear in *On Being and Essence*, chapter 6, that there are essences of accidents as well as of substances. Although he does not, to my knowledge, explicitly say so, he must also think there are essences of transcendentals. For, according to him, the things signified by 'good', 'wise', 'powerful', and 'just' truly pertain to God who transcends the categories, as well as to creatures.

30. *Summa theologiae* I, q.13, a.8.

31. *Summa contra gentiles* I, c.30.

"apart from including any mode of participating."[32] But such names are imposed *from* creatures. And Aquinas thinks the things from which a name is imposed, partially determines the content of our concept by determining the mode in which the thing is signified. Thus, he writes,

> ...these names which are properly said of God imply corporeal conditions not by the thing signified itself of the name, but in connection with the mode of signifying.[33]

Or again, he concludes

> ...Thus in every name said by us, in connection with the mode of signifying, there is found imperfection which does not pertain to God, although the thing signified does pertain to God in some more eminent mode...[34]

Since both the thing signified and the mode of signifying determine the content of our concepts, our concepts are imperfect representations of the goodness, wisdom, power, and life of God.

Thus, on Aquinas's view, 'God is wise' tells us something true about God, because the thing signified by 'wise'—namely, the essence of wisdom—pertains to God, although the mode in which 'wise' signifies it does not pertain to God. But 'Socrates is wise' tells us more about Socrates than 'God is wise' tells us about God, because in Socrates' case both the thing signified and the mode of signifying pertain to Socrates. We can get some clue about how the mode of signifying proper to God differs from that proper to creatures, by referring to the description of God as 'first cause' arrived at in the first three ways.[35] For example, God as first cause is absolutely inaffectible and so cannot have sensation (which Aquinas thinks involves being acted

32. *Summa theologiae* I, q.13, a.3, ad 1; cf. a.3

33. *Ibid.*, a.3, ad 3.

34. *De potentia*, q.7, a.5, ad 2, (Bazzi ed., 199); Cf. *In I Sent.*, d.22, q.1, a.2, (Parma VI, 186); *Summa theologiae* I, q.13, a.6.

35. *Summa theologiae* I, q.2, a.3.

upon). Again, the fact that God, as first cause, is immutable, informs us that God does not know by a process of discursive reasoning which would involve a change from ignorance to knowledge. Finally, the fact that God as first cause is simple, implies that He does not have knowledge as a quality or accidental property, although both Plato and Fido do.[36]

Does Aquinas's theory of analogical predication really preserve divine simplicity in sense (A), however? After all, he claims that the things signified by the terms 'living', 'good', 'wise', and 'powerful' are the essences of these respective perfections. And these essences are the objects of thought or *rationes* when the intellect understands these names. But Aquinas insists that these names are not synonymous, because, although they all stand for the divine essence, "they do not signify the same *ratio*."[37] The essence of goodness is not the same as the essence of wisdom or the essence of power; if it were, nothing would be able to be good without being wise or powerful, and vice versa. It seems to follow that a number of distinct essences exist in God—as many as there are perfections in Him. And if essences are components, God will not be simple in sense (A). Nor will He be simple in sense (C): for while these perfections are logically inseparable in God—e.g., it is logically impossible that He should be good without being wise or powerful etc.—they are logically separable in creatures—e.g., it is logically possible that Socrates be good without being wise or powerful and vice versa. At most, He would be simple in the following sense:

(D) 'x is simple' = df. 'It is not the case that $x$ is compounded of components $C_m$ and $C_n$ such that it is logically possible that $C_m$ exist without $C_n$ in $x$ or logically possible that $C_n$ exist without $C_m$ in $x$'.

Aquinas recognizes the dilemma. On the one hand, it is plausible to reason that

36. See *ibid.*, q.13, a.5.
37. *Summa contra gentiles* I, c.35; cf. *Summa theologiae* I, q.13, a.4.

> ...a *ratio* to which nothing in the thing (*res*) corresponds is vain. Therefore, if these *rationes* are many and the thing (*res*) is one, it seems that these *rationes* are vain.[38]

But on the other, it may be argued that

> ...whatever is in God, is God. Therefore, if the *rationes* according to which the attributes differ are in God, they are God. But God is one and simple. Therefore, these *rationes* are not many insofar as they are in God.[39]

His own view is that the diversity of *rationes* according to which the attributes differ is in God.[40] But the second argument is mistaken in inferring that therefore, there is a plurality of components in Him. For, on Aquinas's usage, "a *ratio* is said to be in a thing (*res*)...insofar as there is something in the extramental thing that corresponds to the mind's conception the way a significatum corresponds to its sign."[41] Nor is the first argument right in its assumption that the *rationes* will be vain and false, unless the correspondence involved is one of corresponding *distinction*; it is enough if there is a corresponding likeness:

> ...A *ratio* is said to be in a thing (*res*) insofar as the significatum of the name to which it pertains to be a *ratio*, is in the thing; and this happens properly when the conception of the intellect is a likeness of the thing.[42]

And he concludes,

38. *Ibid.*, a.4, obj.2.
39. *In I Sent.*, d.2, q.1, a.3, obj.4, (Parma VI, 22).
40. *Ibid.*, a.2, (Parma VI, 22): "in God are found wisdom, goodness, etc., each of which is the divine essence, and so all are one so far as the thing is concerned. And since each of them exists in God according to its truest *ratio*, and the *ratio* of wisdom is not the *ratio* of goodness as such, it remains that they are diverse in reason (*ratione*), not only from the side of the one who reasons but also from the side of the thing itself..." Cf. a.3, (Parma VI, 23).
41. *Ibid.*, a.3, (Parma VI, 23).
42. *Ibid.*

> ...Therefore, something in the thing (*res*) that is God corresponds to the plurality of these *rationes*—not, to be sure, a plurality of the thing, but a full perfection because of which all these conceptions can apply to Him...[43]

A being who is simple in sense (A) can be simultaneously similar to many concepts, and thereby be said to have a plurality of attributes.

## 4. CRITIQUE OF AQUINAS'S SOLUTION

In solving the problem of attribution, Aquinas begins by rejecting the semantic assumption that led to the negative way Further, in denying that a plurality of positive non-relational properties necessarily posits a plurality of constituents in a thing, he discards its metaphysical assumption as well. Nevertheless, Aquinas's solution takes some premisses of its own: (1) that it makes sense to suppose that for some *a* and *b*, *a* and *b* are really the same but distinct *rationes* or conceived objects; (2) that a thing with no distinguishable constituents of any sort can genuinely correspond to a plurality of distinct conceived objects or *rationes*; and (3) that the human intellect is not capable in this life of forming concepts that apply univocally to God and creatures. Yet, each of these postulates came under fire among philosophers of succeeding generations.

*Critique of (1).* Ockham argues that claims of this form—such as that divine wisdom and divine goodness are really the same but distinct *rationes*—are at best misleading and at worst commit a category mistake. Taken literally, they imply that what is really one and the same can be made somehow distinct by a thought process in which it is conceived of in distinct thought objects. This is contrary to what Ockham regards as a fundamental principle about identity and distinction:

> (E) ...being the same or distinct are properties (*passiones*) that immediately pertain to that to which they pertain.

43. *Ibid.*, (Parma VI, 25).

> Consequently, they pertain to it everything else left aside.[44]

Ockham acknowledges that there are lots of features a thing may have through the activity of the intellect. But identity and distinction are not among such features.[45] Thus, he charges, it is absurd to suppose that Socrates is made really the same as Socrates and really distinct from Brownie the donkey through Plato.[46] A fortiori, Socrates is not made the same as or distinct from anything else by the activity of the intellect.[47] Likewise, divine goodness and divine wisdom are not changed in any way by virtue of being understood. If they were in no way distinct prior to the activity of the intellect, they were in no way distinct after it either.

In effect, Ockham is insisting that properly speaking, identity and distinction are two-place relations. And he finds absurd the idea that anything extrinsic to $x$ and $y$ should cause $x$ and $y$ to satisfy either of these two-place relations. Aquinas claims that divine wisdom and divine goodness satisfy the two-place relation of real identity. Ockham concludes that if anything satisfies the two-place relation of distinction, it cannot be divine wisdom and divine goodness themselves, but must be the thought objects or *rationes* of divine wisdom and divine goodness, or the aggregate of the real thing with each of these concepts, respectively.

Again, as long as he held the objective-existence theory, Ockham contended that the ontological categories of real thing (*res*) and being of reason (*ens rationis* or *ratio*) were mutually exclusive.[48] Consequently, if divine wisdom and divine good-

44. *Ord.* I, d.2, q.2, (OTh II, 63); cf. q.5, (OTh II, 154); q.7, (OTh II, 234–35); *Summa logicae* I, c.16, (OPh I, 55).

45. *Ord.*, I, d.2, q.2, (OTh II, 63–64).

46. *Ibid.*, q.6, (OTh II, 184).

47. *Ibid.*, q.2, (OTh II, 63).

48. *Ibid.*, (OTh II, 55, 64–65); q.7, (OTh II, 230). Afterwards, when he comes to identify concepts with really existent mental qualities, Ockham says that the division between real things and beings of reason is an improper division because the latter is a subclass of the former. Cf. *Expos. Periherm.*, c.1, (OPh II, 358, 368–69), and *Quodl.* V, q.21, (OTh IX, 563–64).

ness are the same real thing (*res*), viz., the divine essence, then each is a thing (*res*) and neither is the kind of being that could be a mere being of reason or *ratio*. Conversely, if they are distinct *rationes*, then each is a *ratio* and neither is really the divine essence.[49] Hence, it is a category mistake to say that divine wisdom and divine goodness are really the same thing but diverse *rationes*.

Insofar as it is directed against Aquinas, however, the polemical force of Ockham's attack seems doubly blunted. For one thing, Aquinas would probably not have accepted (E). After all, he maintains that the substantial form of man is individuated by something extrinsic to it—viz., matter signed by quantity. Further, while Aquinas probably did regard real identity and distinction as two-place relations, he is probably best construed as conceiving of the distinction of reason as a four-place relation, two of whose places are satisfied by thought objects or *rationes*. Since it is not absurd to suppose that intellectual activity is involved in the production of thought objects, it does not seem absurd to suppose that divine wisdom and divine goodness should be caused to satisfy this four-place relation at least in part by the activity of the intellect.

In fact, it is quite clear from section 3 above, that Aquinas never intended to assert that any activity of the intellect could cause a real thing to be distinct from itself in what Ockham regards as the proper sense of 'distinct'. Nor did he wish to say that any real thing (*res*) is identical with any mere being of reason in what Ockham would regard as a proper sense of 'identical'. Rather when he says that divine wisdom and divine goodness are really the same but distinct *rationes*, he means only that the real thing that is divine goodness and divine wisdom corresponds by resemblance to distinct thought objects. And this is as close as makes no different to the improper sense of 'distinction of reason' that Ockham assigns to the sayings of some ancient doctors, when he writes that to be thus distinct in reason is simply to

49. *Ord.* I, d.2, q.2, (OTh II, 54–55).

> correspond to different concepts, as the real thing (*res*) signified corresponds to different signs. God is said to be distinct in reason in this way, because He corresponds to distinct concepts without any distinction in Him. Thus, really the same God is multiple in reason, as Augustine says.[50]

If Ockham had thought that this was all Aquinas meant, he would have deplored his wording but granted the sense. For Ockham agrees with Aquinas's second assumption—that the divine essence can be simultaneously similar to a plurality of concepts without there being any corresponding distinction of constituents in God.

*Critique of (2).* Scotus also rejects Aquinas's contention that there is only a distinction of reason between divine wisdom and divine goodness. Nevertheless, his principal reason is not the one given by Ockham—viz., that divine goodness and divine wisdom are in every way the same—but rather that Aquinas's claim underestimates their nonidentity or distinction. After all, Scotus points out, there is a distinction of reason between wise and wisdom, because the concepts 'wise' and 'wisdom' conceive the same formal object under different logical and grammatical modes. Surely there is more distinction between divine wisdom and divine goodness than there is between wise and wisdom.[51] Further, Scotus contends, divine wisdom and divine goodness are not merely distinct formal objects in the intellect. For God has an intuitive cognition of His own essence and intuitively understands divine wisdom and divine goodness as distinct formal objects. But it follows from Scotus's definition of intuitive cognition that "there is never anything in intuitive cognition that is not in the object intuitively cognized."[52] Consequently, divine wisdom and divine goodness must be somehow distinct in the divine essence itself prior to any intellectual activity.[53]

50. *Quodl.* III, q.2, (OTh IX, 210).

51. *Lectura* I, d.8, p.1, q.4, n.173, (Vaticana XVII, 62); cf. *Ord.* I, d.8, p.1, q.4, n.191, (Vaticana IV, 260–61).

52. *Ibid.*, (Vaticana IV, 260–61).

53. *Ibid.*; cf. *Lectura* I, d.8, p.1, q.4, n.174, (Vaticana XVII, 62–63).

Confronted with Scotus's argument, Aquinas would doubtless say that the former's assumption that God has an intuitive cognition of divine wisdom and divine goodness as distinct formal objects, begs the question. According to Aquinas, the Divine Word, who perfectly conceives the divine essence as it is in itself, conceives the fullness of perfection in one simple object.

Nevertheless, it is part of Aquinas's position that the simple thing that is the divine essence genuinely corresponds to distinct *rationes* or falls under distinct concepts of wisdom and goodness. And Scotus would argue that if so, there must be some distinction between divine wisdom and divine goodness in the divine essence prior to every act of intellect. For, he would say, either the concepts 'divine wisdom' and 'divine goodness' do have some aspect of the thing that is the divine essence as objects, or not. If not, then the divine essence does not genuinely fall under these distinct concepts after all, and the concepts are entirely fictitious. On the other hand, if in conceiving of divine wisdom and divine goodness, the intellect does have some aspect of the thing that is the divine essence as its object, then—since *ex hypothesi* there are no distinctions at all in that thing—the concepts 'divine wisdom' and 'divine goodness' must have altogether the same content—in which case they will not be distinct concepts after all. Conversely, if the concepts are distinct and the divine essence does genuinely fall under them, then there must be some sort of distinction within the divine essence prior to all intellectual activity.[54]

*Critique of (3).* A conceptual empiricist like Scotus and Ockham, Aquinas thinks that all of our concepts in this life have their natural causal origin in sensation. Sensation results in the production of a phantasm from which the agent intellect abstracts an intelligible species, and the mind responds to this by forming the *ratio* or concept.[55] But Aquinas denies the agent

54. Scotus applies this reasoning to the case of the things that are the species and the concepts of genus and differentia, in *Quest. subtil. Metaphysicorum* VII, q.19, (Wadding IV, 727). See Part One, chapter 2 above.

55. *Summa theologiae* I, q.75, a.6, ad 3; q.79, a.4.

intellect the power to abstract any concepts that apply univocally to immaterial things of any sort,[56] since the latter are of an altogether different *ratio* from anything represented by the phantasm. Accordingly, he says that any concepts of perfections that result from such abstractions by the agent intellect will be determinate with respect to the mode in which those perfections exist in composites of matter and form. Any further abstraction to form a concept that is determinate with respect to the perfection signified but indeterminate and determinable with respect to the mode in which the perfection is possessed, is apparently psychologically impossible for us.

Scotus agrees with Aquinas about the way in which concepts are naturally produced in us in this life. But he tries to disprove the latter's conclusion that we thereby form concepts that apply, not univocally, but only analogically. Preliminary to this enterprise, Scotus explains that a univocal concept is one "which possesses sufficient unity in itself so that to affirm and deny it of one and the same thing would be a contradiction. It also has sufficient unity to serve as the middle term of a syllogism, so that wherever two extremes are united by a middle term that is one in this way, we may conclude to the union of the two extremes among themselves..."[57] (a) Scotus's first argument runs as follows:

> ...[1] Every intellect that is certain about one concept, but dubious about others has, in addition to the concepts about which it is in doubt, another concept of which it is certain. (The subject includes the predicate.) [2] Now, in this life already, a man can be certain in his mind that God is a being and still be in doubt whether He is a finite or an infinite being, a created or an uncreated being. Consequently, [3] the concept of 'being' as affirmed of God is different from the other two concepts but is included in both of them and therefore is univocal.[58]

56. *Ibid.*, q.88, a.1–2.

57. *Ord.* I, d.3, p.1, q.1–2, n.26, (Vaticana III, 18), (Wolter trans., in *Philosophical Writings*, 20).

58. *Ibid.*, n.27, (Vaticana III, 18), (Wolter trans., 20), quoted by Ockham, *Ord.* I, d.2, q.9, (OTh II, 294).

As Scotus points out, 2 is a historical fact. Philosophers have been certain that what they postulated as a first principle—whether fire, water, etc.—was a being and yet they have doubted whether it is finite or infinite, etc.[59] In stating the argument, Scotus advances 1 as analytic, and interpreted as 'Every intellect that is certain of concept $C_m$ and doubtful of concepts $C_n$ and $C_o$ (where $C_m \neq C_n$, $C_n \neq C_o$, and $C_o \neq C_m$) has one concept of which he is certain and different concepts of which he is doubtful' it is trivially so. In defending the argument, however, Scotus invokes the Indiscernibility of Identicals to prove that if someone is certain about concept $C_m$ and doubtful of concepts $C_n$ and $C_o$, then $C_m$ must not be identical with either $C_n$ or $C_o$.[60] Either way, Scotus's derivation of 3 from 1 and 2 seems invalid. To be sure, one could describe the predicament of the pre-Socratic philosophers by saying that they were certain that God fell under the concept of being but uncertain whether He fell under the concept 'infinite' or the concept 'finite'. But as Ockham notes, one might alternatively suppose that "the intellect is not certain of one concept; but it is enough that it is certain of two under disjunction."[61] Thus, one might hold that the concepts 'infinite being' and 'finite being' were distinct concepts with no common components, and then characterize their situation as one in which they were certain that God fell either under the concept of infinite being or the concept of finite being, but unsure as to which of the two concepts He fell under. Nevertheless, this second interpretation would not seem to be available to Aquinas. For how could he consistently allow us the ability to form a concept of infinite being that contained no components in common with our concept of finite being? Each of the components of all of our concepts must apply univocally to composite entities on Aquinas's account.

(b) Scotus's second principal argument emphasizes just this feature of Aquinas's theory.

59. *Ord.* I, d.3, p.1, q.1–2, n.29, (Vaticana III, 18–19).

60. *Ibid.*, n.28, (Vaticana III, 18); cf. d.8, p.1, q.3, n.58, (Vaticana IV, 178–79).

61. Cf. *Rep.* III, q.10, (OTh VI, 342–44); *Ord.* I, d.2, q.9, (OTh II, 299).

> ...In the present life no concept representing reality is formed naturally in the mind except by reason of those factors which naturally motivate the intellect. Now these factors are the agent intellect, and either the phantasm or the object that is revealed in the phantasm. No simple concept, then, is produced naturally in our mind except that which can arise in virtue of these factors. Now, no concept could arise in virtue of the agent intellect and the phantasm that is not univocal but only analogous with, or wholly other than what is revealed in the phantasm...[62]

When we combine this with Aquinas's claim that we are unable to form any concepts univocal to God and creatures in this life, Scotus concludes, it will follow that we are not naturally able to form any concepts of God at all—which is false.[63]

Construed as an independent argument against theories of analogical predication of the sort offered by Aquinas, however, this reasoning is ineffective. For Aquinas has not claimed that we can form any concepts of perfections that apply strictly to God and only analogically to creatures—i.e., concepts which are determinate with respect to the perfection and the *divine* mode of possessing the perfection. Rather he has assigned us the power to abstract concepts of perfections that apply strictly and univocally to creatures and only analogically to God—i.e., concepts which are determinate with respect to the perfection and the mode in which composite substances possess it.

(c) Scotus's third argument for univocity tersely points out that in this life we do not have a proper concept of God as He is in Himself; for if we did, we would have self-evident knowledge of such necessary truths about Him as that He is a Trinity of persons, etc.—which we have now only by faith.[64] Presumably, he wishes to reason that, therefore, if we were unable to abstract concepts that apply univocally to God and creatures, we would not have any concept of God at all. But such an observation would seem to beg the question against those who agree with Aquinas that we can conceive of God on analogy with creatures.

62. *Ord.* I, d.3, p.1, q.1–2, n.35, (Vaticana III, 21–22), quoted by Ockham, *Ord.* I, d.2, q.9, (OTh II, 294).

63. *Ibid.*

64. *Ibid*, n.36, (Vaticana III, 24).

(d) Scotus's fourth argument is an appeal to the way in which philosophers and theologians actually go about trying to determine what properties God has.

> ...Every metaphysical inquiry about God proceeds in this fashion: the formal notion (*ratio*) of something is considered; the imperfection associated with this notion in creatures is removed, and then, retaining this same formal notion, we ascribe to it the ultimate degree of perfection and then attribute it to God...[65]

Aquinas seems to proceed this way himself, when he says that the essence of wisdom, which is found in creatures, does pertain to God, but in a different and more eminent way than that in which it pertains to creatures. If we are thus able in our consideration to separate the essence of wisdom from the imperfections that accompany it in creatures, how can Aquinas consistently claim that we are psychologically unable to abstract a concept of wisdom that is univocal to God and creatures?

Scotus himself believes that while in this life we cannot naturally have a concept of God as He is in Himself, we can naturally abstract concepts that apply univocally to God and creatures—e.g., a concept of being, intellect, will, wisdom, etc.[66] For he maintains,

> ...whatever can imprint or cause a species of what is less universal in the intellect, can also cause any species of that which is more universal. Thus, it is that creatures which impress their own proper species on the intellect can also impress the species of transcendentals which are common to themselves and to God.[67]

Further, given such abstract concepts, we can compound concepts that apply to God and not to creatures: e.g., the concepts

65. Cf. *ibid.*, d.8, p.1, q.3, n.71–72, (Vaticana IV, 185–86); d.3, p.1, q.1–2, n.39, (Vaticana III, 26); *Lectura* I, d.8, p.1, q.3, n.80, (Vaticana XVII, 27), (Wolter trans., 24–25), quoted by Ockham, *Ord.* I, d.2, q.9, (OTh II, 295).

66. *Ord.* I, d.3, p.1, q.1–2, n.56–57, (Vaticana III, 38–39); cf. *Lectura* I, d.8, p.1, q.3, n.125, (Vaticana XVII, 44–45).

67. *Ord.* I, d.3, p.1, q.1–2, n.61, (Vaticana III, 41).

of infinite being, infinite wisdom, infinite goodness, and each of the pure perfections taken in the highest degree.[68] Of these proper concepts, Scotus argues that the concept of infinite being is the simplest and most perfect. First,

> ...it is simpler than the concept 'good being', 'true being', and the like, because 'infinite' is not a quasi-attribute or a property (*passio*) of being or of that of which it is asserted, but signifies an intrinsic mode of that being. Thus, when I say 'infinite being', I do not have a quasi-accidental concept composed of a subject and a property (*passio*), but an essential (*per se*) concept of a subject in a certain degree of perfection—viz., infinity...[69]

He contends that it is more perfect than any other proper concept naturally possible for us in this life, both because "the concept 'infinite being' virtually includes the concepts 'infinite truth' and 'infinite good' and the concept of every absolute perfection under the aspect of infinity" and because—as the last description shown to be instantiated by the demonstration *quia* from creatures—it must be the furthest removed from those that apply to creatures and thus the most perfect.[70] Further, the concept 'infinite being' is alleged to be more perfect than 'highest being'. For either 'highest' means 'higher than all others that actually exist' in which case it is a relative concept, whereas 'infinite' signifies an intrinsic mode, or 'highest' means 'that perfection that cannot, in the nature of things, be exceeded', in which case this degree of perfection is more explicitly conceived under the notion of infinity.[71]

## 5. SCOTUS'S SOLUTION

Scotus holds that prior to all intellectual activity, divine perfections such as divine wisdom and divine goodness are not for-

68. *Ibid.*, n.58, (Vaticana III, 40).
69. *Ibid.*
70. *Ibid.*, n.59, (Vaticana III, 40–41).
71. *Ibid.*, n.60, (Vaticana III, 41).

mally the same or are formally nonidentical or diverse:[72]

> The explanation of this is that to include formally is to include something in its essential *ratio*, so that if a definition of what includes were assigned, what is included would be the definition or part of the definition. But just as goodness in general does not include wisdom, so neither does infinite goodness include infinite wisdom. Therefore, there is a formal nonidentity between wisdom and goodness, insofar as they would have distinct definitions if they were definable. Moreover, the definition signifies not only a *ratio* caused by the intellect but the quiddity of the thing (*res*). Therefore, there is a formal nonidentity in the thing which I understand to mean that when the intellect compounds the proposition 'Wisdom is not formally goodness', this act of comparison does not cause the truth of a composition, but extremes found in the object make the composition a true act.[73]

As noted in Part One, chapter 2 above, Scotus at first seems to have regarded the satisfaction of the above description of formal nonidentity as a criterion of the presence of distinct entities (realities, formalities, formal aspects, etc.) within what is really one and the same thing (*res*). Thus, divine wisdom, divine goodness, and the other divine perfections would be distinct entities or realities within the thing (*res*) that is the divine essence. And it is the distinction of these entities or realities that corresponds to the distinct concepts 'wisdom', 'goodness', etc. and guarantees that the divine essence falls under each of them.

So understood, however, Scotus's position appears to be inconsistent with divine simplicity in sense (A), because it seems to imply a plurality of component entities in the divine essence—one for each perfection. If infinite wisdom, infinite goodness, etc. are components of the divine essence, it can at most be simple in sense (D).

In both the *Lectura* and the *Ordinatio*, Scotus is at pains to deny that formal nonidentity or diversity among the divine perfections compromises divine simplicity in any way. For as we saw in Part One, chapter 2, Scotus thinks a thing (*res*) is com-

72. *Lectura* I, d.8, p.1, q.4, n.175–76, (Vaticana XVII, 63); *Ord.* I, d.8, p.1, q.4, n.192–93, (Vaticana IV, 261–62).

73. *Ibid.*, n.193, (Vaticana IV, 261–62).

posite in the strictest sense only if it contains two things (*res*) one of which is in potentiality with respect to the other. And in the broader sense also excluded by simplicity in sense (A), a thing (*res*) that includes a plurality of entities or realities is thereby rendered composite only if one of the contained realities is in potentiality with respect to another.[74] In such cases, the included entities are not the same by identity but only "the same third,"[75] and the perfection of one will add something to the perfection of the other, and the resultant perfection of the whole will be different from and/or greater than the perfection of the parts. Nevertheless, according to Scotus, an infinite entity cannot be in potentiality with respect to anything compossible with it, and its perfection cannot be added to by any other entity. Hence, infinite entities do not count as genuine components of the thing in which they are included. And since each of the divine perfections is infinite, the existence of a plurality of them in the divine essence does not violate divine simplicity in sense (A).[76]

In this connection, Scotus reminds us that just because God and creatures both fall under a plurality of perfection concepts, such as 'goodness' and 'wisdom', we are not to think that goodness and wisdom are genera common to God and creatures. For, as noted in section 1 above, the reality that pertains to a genus must be indeterminate and determinable in some respect and in potentiality with respect to being actualized by some differentia. Since the reality of each divine perfection is infinite, none can qualify as a generic reality. Consequently, there is no genus common to God and creatures, but all of the concepts common to God and creatures are transcendentals.[77]

Further, even though there are concepts of 'wisdom' and

74. *Ord.* II, d.3, p.1, q.3, n.189–190, (Vaticana VII, 484–85).

75. *Lectura* I, d.8, p.1, q.3, n.102–103, (Vaticana XVII, 34–35); n.118, (Vaticana XVII, 41); n.189, (Vaticana XVII, 68–69); *Ord.* I, d.8, p.1, q.3, n.106–107, (Vaticana IV, 201–202).

76. *Lectura* I, d.8, p.1, n.189, (Vaticana XVII, 69); cf. *Ord.* I, d.8, p.1, q.4, n.209, (Vaticana IV, 269).

77. *Lectura* I, d.8, p.1, q.3, n.106–110, (Vaticana XVII, 37–38); Cf. *Ord.* I, d.8, p.1, q.3, n.135, (Vaticana IV, 220).

'goodness' that are univocal to God and creatures, Scotus concludes that

> ...God and creatures are really primarily diverse, because a single kind of action never pertains to a finite and an infinite being. Nor is an infinite entity capable of any of those perfections by virtue of which a finite entity capable of them is rendered determinate or contracted. Nevertheless, God and creatures agree in one concept in such a way that there can be one concept formed by an imperfect understanding and common to God and creatures. This concept can be caused by the imperfect thing...[78]

Apparently, where goodness or wisdom is in creatures, it always actualizes a potentiality in that creature or renders it determinate in some respect in which it was indeterminate and determinable earlier. Since nothing could actualize any potentiality in God or limit His being in any way, it must be that wisdom and goodness in God are not the same realities as wisdom and goodness in creatures.

Scotus never explicitly applies his second conception of formal nonidentity (see Part One, chapter 2 above) to the problem of attribution. But it is clear that infinite wisdom and infinite goodness will still fail to be formally the same according to it. For prior to any intellectual activity, it is the case that if they were definable, neither would fall under the definition of the other. Nevertheless, this fact would not signal further the existence of any absolutely distinct entities in God, and hence would not compromise divine simplicity in sense (A).

## 6. OCKHAM'S CRITIQUE OF SCOTUS

(i) Ockham's primary response to Scotus's solution is to launch a general attack on his notion of formal distinction.[79]

78. Cf. *Lectura* I, d.8, p.1, q.3, n.84, (Vaticana XVII, 29); n.129, (Vaticana XVII, 46–47).

79. *Ord.* I, d.2, q.1, (OTh II, 14): "I raise an argument against this opinion that holds equally against the formal distinction wherever it is assumed..."

Recall from chapter 2 that Ockham rejects any ontology that posits a plurality of formally distinct entities in one and the same real thing, on the ground that none can provide a criterion of distinction for real things. For contradiction is "the most powerful way" of proving such distinction.[80] But if *a* and *b* are formally distinct entities in the same real thing *x*, it follows that contradictories—viz., '*a* is formally the same as *a*' and '*b* is not formally the same as *a*'—are simultaneously true about what is or is in the same real thing. And Ockham contends that all contradictories are equally contradictory—'not formally *F*' and 'formally *F*' are just as contradictory as 'not *F*' and '*F*'.[81] Thus, if some propositions of the form '*x* is *F*' and '*y* is not *F*' can be true about really existent property-bearers that are only formally distinct, it would seem that any pair of contradictories can. "...And so every way of proving real distinction or nonidentity among any beings whatever would perish..."[82] For example, if 'Divine wisdom is formally divine wisdom and divine goodness is not formally divine wisdom' entails only 'Divine wisdom and divine goodness are not formally the same', then what reason is there to suppose that 'A man is rational and a donkey is not rational' entails 'A man and a donkey are really distinct' rather than 'A man and a donkey are formally distinct'? Nor will it do any good to say that a man and a donkey are really distinct while divine wisdom and divine goodness are only formally distinct, because it is logically possible for a man to exist without a donkey and vice versa, while it is logically impossible for divine wisdom to exist without divine goodness and vice versa. For this is to assume that 'can exist without *x*' and 'cannot exist without *x*' are more contradictory than other contradictories and so cannot be simultaneously true of the same real thing, although other contradictories can. But Ockham sees no rational basis for distinguishing among contradictories in this way.

On the other hand, if we abandon the idea that there is any

80. *Ibid.*, q.6, (OTh II, 173–74).
81. *Ibid.*, q.1, (OTh II, 16–17).
82. *Ibid.*, (OTh II, 16).

plurality of really existent entities within one and the same real thing, it not only becomes more incomprehensible how contradictories could be simultaneously true about one and the same real thing, it also becomes mysterious how divine wisdom and divine goodness could be thought to satisfy Scotus's criterion for formal distinction. For as essential properties of the same real thing, they will be formally distinct just in case neither would be included in the definition of the other if they were definable. But Scotus has made it clear that the definitions he speaks of are not merely the nominal definitions of conventional words or concepts fabricated by the mind, but real definitions of real quiddities. Like everyone else, Ockham allows distinct nominal definitions for the general terms 'infinite wisdom' and 'infinite goodness' and the general concepts formed by adding the concept of infinite to the concepts of wisdom in general and goodness in general, respectively. And he holds, contrary to Scotus's early view, that the same real thing can genuinely fall under the distinct concepts of infinite wisdom and infinite goodness without containing any distinction of entities within itself. But Ockham does not see how there can be distinct real definitions of divine wisdom and divine goodness on this hypothesis; for there would be only one reality there to be defined.[83]

As we saw in chapter 2, Scotus would not have been utterly defeated by such arguments. (ii) Even if the formal distinction were granted, however, other objections to Scotus's position would remain. For one thing, Ockham wonders, why does Scotus deny that the existence of concepts univocal to God and creatures implies the existence of something real univocal to God and creatures? After all, where Socrates and Plato are concerned, Scotus maintains not only that there is a general concept 'man' that applies univocally to Socrates and Plato, but also that there is something in the nature of things, viz., human nature, that has a real unity less than numerical unity and that is contracted to Socrates by one contracting difference and to Plato by another. Why should he not, by parity of reasoning, maintain

83. *Ibid.*, (OTh II, 30–31).

that where Socrates is wise and God is wise, not only is there a general concept 'wisdom' that applies univocally to Socrates' wisdom and God's wisdom, but also there is something in the nature of things, viz., wisdom, that is contracted to Socrates by one contracting difference and to God by another?[84] Indeed, Ockham reasons, if wisdom and the intrinsic modes finite and infinite in which it exists in God and creatures respectively, "are somehow distinct or not the same in every way, then there will be something univocal to God and creatures..."[85]

Ockham says "there is no reason [for him] to deny such univocity unless it would follow that there is some composition in God of what contracts and what is contracted."[86] According to Scotus, however, human nature and the contracting difference are only formally distinct in Socrates. By parity of reasoning, wisdom and what contracts it would be formally distinct in God. But, Ockham contends, "there is no more reason why these formally distinct entities should form a composite than others."[87] Since Scotus insists that the formally distinct divine essence and relation of Paternity do not form a composite in the Father, he cannot reasonably suppose that any other formally distinct entities combine to form a composite either. Consequently, if wisdom were a reality univocal in God and Socrates, and if there were a formal distinction in God between wisdom and what contracted it, that would not render God composite. Ockham, therefore, does not see how Scotus can consistently reject the above analogy and deny the existence of a reality univocal to God and creatures.

Scotus, of course, would respond that there is a reason why some formally distinct entities form a composite and others do not: viz., sometimes one of the combining formally distinct entities is infinite, and other times none is. Although highly metaphorical, his idea is that an infinite entity is one that has the maximum degree of being, so that its degree of being cannot be

84. *Ibid.*, q.6, (OTh II, 191–92).
85. *Ibid.*, d.8, q.1, (OTh III, 173).
86. *Ibid.*, d.2, q.6, (OTh II, 192).
87. *Ibid.*

added to or increased. But it is true by the definition of 'composite' that *a* and *b* form a composite only if *a* adds something to the being and perfection contributed by *b*, and vice versa. As for the idea that any contracting difference should exist in God, Scotus insists that no reality contracts or limits any reality in God.

While these claims show why Scotus would reject Ockham's specific proposal, they do not explain his denial of a reality univocal and common to God and creatures. For given these remarks about infinity, Scotus could allow a plurality of realities univocal and common to God and creatures without compromising divine simplicity in any way. For it is already a part of Scotus's doctrine that wisdom, intellect, or will exists in creatures in a finite mode, together with certain imperfections; but wisdom, intellect, or will exists in God in an infinite mode. Even if he allowed that the same reality is finite in creatures and infinite in God, the way he holds that the same human nature is this in Socrates and that in Plato, he would still be left maintaining that each reality in the divine essence is infinite and so not liable to composition.

As Ockham points out,[88] the very wording of one of Scotus's arguments for concepts univocal to God and creatures, suggests that there are realities common and univocal to them as well. For Scotus asserts that the same formal aspect (*ratio formalis*) of wisdom, intellect, or will is to be attributed to God and creatures.[89] And Ockham notes that the thrust of the argument, on this interpretation, runs contrary to Scotus's own claim that

88. *Ibid.*, q.9, (OTh II, 300).

89. *Ord.* I, d.3, p.1, q.1–2, n.39, (Vaticana III, 26–27): "...omnis inquisitio metaphysica de Deo sic procedit, considerando formalem rationem alicuius et auferendo ab illa ratione formali imperfectionem quam habet in creaturis et reservando *illam rationem formalem* et attribuendo sibi omnino summam perfectionem, et sic attribuendo illud Deo. Exemplum de formali ratione sapientiae (vel intellectus) vel voluntatis: consideratur enim in se et secundum se; et ex hoc quod ista ratio non concludit formaliter imperfectionem aliquam nec limitationem, removentur ab ipsa imperfectiones quae concomitantur eam in creaturis, et reservata *eadem ratione* sapientiae et voluntatis attribuuntur ista Deo perfectissime. Ergo omnis inquisitio de Deo

of each...[90]

(iii) In fact, Ockham regards Scotus's claim about infinity as yet another flaw in his position. For if Scotus were right about what is involved in being infinite, then the above reasoning would apply as much where *a* and *b* are really distinct things (*res*) as where they are formally distinct entities. Yet, Ockham insists, "if there were two formally infinite things (*res*) that constituted something essentially one, they would form a composite, their infinity notwithstanding..."[91]—presumably because any combination of really distinct things (*res*) to make something essentially or accidentally one, forms a composite. Since the latter is a principle Scotus would probably have granted, he should not have maintained that infinity suffices to take away the liability to composition.

In *Ordinatio* I, d.33, q.1, Ockham offers another, less persuasive argument for the same conclusion (OTh IV, 420). In effect, he reasons that if *a* as infinite has the maximum degree of being and so cannot be added to, *b* as having the least degree of being cannot add anything to that with which it combines. Accordingly, since matter has the least degree of being, combinations of matter with form would not count as composites either—which Scotus would emphatically deny. The general principle that *b* as having the least degree of being would not add anything to that with which it combines, is plausible only if there is a least degree of being and it is zero. But on that interpretation, Scotus did not assign matter the least degree of being. In fact, as we have seen in Part IV, chapter 16 above, Scotus preceded Ockham in arguing against Aquinas that the genuine

supponit intellectum habere conceptum eundem, univocum, quem accepit ex creaturis" (italics mine).

90. *Ord.* I, d.2, q.9, (OTh II, 300).

91. *Ibid.*, q.10, (OTh II, 353).

composition of matter and form requires us to suppose that matter has some actuality of its own and does not receive all of its actuality from form.

(iv) Finally, Ockham rejects Aquinas's and Scotus's argument that God and creatures cannot share a genus, based on the contention that genus is invariably in potentiality with respect to a range of differentiae, while there is no potentiality in God. For one thing, it rests on the false assumption that "every species is constituted from a genus and differentia." Ockham argues that "simple things such as angels and accidents do not have essential differentiae" and yet they fall under a genus.[92] Further, Ockham insists that nothing can be in potentiality with respect to itself. Thus, even if every genus were necessarily divided by differentiae, it could be true that genus has a potentiality that the differentia actualizes, only if they were really distinct. Yet, Aquinas cannot consistently maintain that genus and differentia are invariably so related. For according to him, a man is animal and rational by virtue of a single substantial form,[93] there being only a distinction of reason between the sensory and intellectual soul in man. And Scotus explicitly acknowledges that while genus and differentia are sometimes distinct real things (*res*), other times they are merely formally distinct realities.[94] As we have seen, Ockham rejects Scotus's application of the formal distinction to creatures on a variety of grounds. But here he tries to reduce Scotus's claim that

1. It is possible for *a* to have a potentiality that *b* actualizes where *a* and *b* are really the same but formally distinct,

to an absurdity by pointing out that the conjunction of it with two premisses that Ockham regards as necessary—

2. The potential is more imperfect than the actual,

and

92. *Ibid.*, d.8, q.1, (OTh III, 162); cf. (OTh III, 175–76, 181, 183–85).
93. *Ibid.*, (OTh III, 163); cf. Part Four, chapter 15 above.
94. *Ibid.*, (OTh III, 167–68).

3. If *a* and *b* are really one thing, *a* is no more imperfect than *b*, or vice versa,

—yields a contradiction. Further, Scotus maintains that the divine essence is infinite and therefore maximally perfect. Given 1 and 3, it follows that *a* may have a potentiality that *b* actualizes, or vice versa, and yet *a* and *b* be included in the divine essence without in any way diminishing divine perfection. Yet Scotus and Ockham concur in

4. Where there is potency and act, there is some composition.

And Ockham draws the conclusion that "composition is compatible with the infinity of the divine essence apart from any imperfection"—which both he and Scotus regard as absurd.[95] Of course, Ockham's argument relies heavily on 3, which would ultimately find its support in his attack on the ontology presupposed by Scotus's first formal distinction.

Ockham's own view is that what falls under a genus is not necessarily a composite of entities, one of which is in potentiality with respect to the other. Hence, he concludes that "simplicity that involves the lack of any intrinsic composition does not prevent anything from being in a genus."[96] And he maintains that "God is not in a genus,"[97] but "reason cannot adequately prove" it.[98]

## 7. OCKHAM'S POSITION

With Aquinas and Scotus, Ockham affirms divine simplicity in sense (A), and accordingly that divine wisdom and divine goodness are neither really distinct from each other nor from

95. *Ibid.*, (OTh III, 172).
96. *Ibid.*, (OTh III, 175–76); q.2, (OTh III, 183).
97. *Ibid.*, (OTh III, 177).
98. *Ibid.*, (OTh III, 180).

the divine essence. Unlike his predecessors, he further concludes that

> ...divine wisdom is the same as the divine essence in every way in which the divine essence is the same as itself. Similarly, for divine goodness and justice. Nor is there any distinction at all, or even any nonidentity there in the nature of the thing...[99]

For where 'attributal perfection' is taken "for an absolutely divine perfection that really is God,"[100] it would be a category mistake to suppose that there is a distinction of reason among the attributal perfections or between each of them and the divine essence (see section 4 above). Likewise, Ockham does not see how there can be any formal nonidentity or distinction among them (see section 6 above). Indeed, where we are discussing divine perfection that is really the same as the divine essence,

> ...there are not many attributal perfections, but there is only one perfection there, indistinct in reality and reason, which properly and literally should not be said to be *in* God or *in* the divine essence, but in every way *is* the divine essence...[101]

Divine wisdom and divine goodness are in every way the same real perfection.

Further, Ockham concurs that so far as natural human cognition in this life is concerned, "God cannot be cognized in Himself in such a way that the divine essence itself is the immediate term of the act of understanding..."[102] For one thing, it will be naturally possible for us to apprehend an object other than our own mental acts immediately, only if it is naturally possible for us to have first a sensory and then an intellectual intuitive cognition of that object (see Part Three, chapter 13 above). But no one can have a sensory cognition of the divine

99. *Ibid.*, d.2, q.1, (OTh II, 17).
100. *Ibid.*, q.2, (OTh II, 61).
101. *Ibid.*
102. *Ibid.*, q.9, (OTh II, 312); cf. Prologue, q.1, (OTh I, 48); q.9, (OTh I, 266–67); *Rep.* III, q.10, (OTh VI, 341); *Ord.* I, d.3, q.2, (OTh II, 402).

essence, since it is not a sensible thing. And in any event it is obvious that we do not naturally have an intellectual intuitive cognition of the divine essence in this life; for if we did, we would thereby be caused to have evident knowledge that God exists—which we do not.[103] Again, suppose that we had such a concept and used it to formulate the mental proposition 'God exists'. Since that concept would be absolutely simple in content, no proposition asserting its instantiation could be contradictory. Ockham then assumes that we could not help recognizing this fact, and that if we had such a simple concept we would use it—instead of and/or in addition to any composite concept of God we had—to formulate a mental proposition corresponding to the written proposition 'God exists'. And he concludes that since it is possible for each of us to doubt whether 'God exists' is contradictory, we must not have any such simple concept.[104] It is for the Blessed in the next life that God has reserved such intuitive cognitions of Himself and evident knowledge not only of His existence, but also of contingent propositions such as 'God is incarnate' that can be evidently known only through intuitive cognition, and of necessary propositions such as 'God can be incarnate' that can be known only by an immediate inference from corresponding contingent truths.[105] And if human beings in this life cannot naturally have an intuitive cognition of which the divine essence is the immediate object, we cannot naturally have an abstractive cognition of which it is the immediate object either.[106] Nevertheless, God could miraculously produce in us an abstractive cognition in which He Himself is the immediate object and thereby supply us with a simple, proper, non-connotative, non-negative concept of Himself. Ockham says that if we put this concept in the subject position and a proper or common non-connotative term in the predicate proposition, we

103. *Quodl.* IV, q.17, (OTh IX, 381); cf. *Ord.* I, d.2, q.9, (OTh II, 313–14).

104. *Ibid.*, (OTh II, 313).

105. *Ibid.*, Prologue, q.1, (OTh I, 48–51); *Quodl.* IV, q.4, (OTh IX, 317); cf. V, q.3, (OTh IX, 487).

106. *Rep.* III, q.10, (OTh VI, 341).

could thereby have evident knowledge of the resulting necessary propositions—e.g., 'God is good', 'God is intelligent', 'God is one', 'God is triune'.[107] The latter propositions have existential import, however. And in view of Ockham's assertion that God's existence can be evidently known only through an intuitive cognition, he must mean that the miraculously caused abstractive cognition of the divine essence makes conditional propositions such as 'If God exists, He is good', 'If God exists, He is intelligent', etc. to be evidently known. Given that we cannot naturally have an intuitive or abstractive cognition of which God Himself is the immediate object, Ockham's conceptual empiricism dictates that '...He cannot be conceived by us in this life in a simple concept proper to Him: at least by our unaided natural powers, because "nothing can be cognized by us by our purely natural powers in a simple concept proper to it, unless it is first cognized in itself."[108]

(It is clear from these comments about what concepts we and the Blessed miraculously have and what propositions we thereby formulate, that Ockham joins Aquinas in rejecting the metaphysical and semantic assumptions that led to the negative way. So far from holding that propositions of the form '*x* is *F*' signify the inherence of one component—the property *F*-ness—in a distinct component—the property-bearer—Ockham is committed, on his objective-existence theory, to saying that the objectively existent divine essence itself, which, as absolutely simple includes no components of any sort, can serve as the subject term in a mental proposition in which something proper or common is predicated. Rather for such a proposition to be true, it is necessary only that the predicate concept supposit for the divine essence, just as the subject concept does (see Part Two, chapter 11).)

Like Scotus, Ockham contends that while we cannot naturally have a simple and proper concept of God, "He can be conceived of by us in a common concept predicable of Him and

107. *Ord.* I, Prologue, q. 1, (OTh I, 51); *Quodl.* IV, q.4, (OTh IX, 317–18).
108. *Ord.* I, d.2, q.9, (OTh II, 314); cf. d.3, q.2, (OTh II, 402–404).

others."[109] Ockham's argument follows Scotus's lead:

> ...[1] Everything that can be cognized by us is cognized either [a] in itself, or [b] in a simple concept proper to it, or [c] in a composite concept proper to it, or [d] in a concept common to it and to others. [2] But God is somehow cognized by us. [3] Not the first two ways, as was explained. Therefore, [4] the third or fourth way. [6] If the third way, it is necessary for Him to be cognized the fourth way, since [5] the proper composite concept—given that it cannot be compounded from simple proper concepts—must be compounded from simple common concepts.[110]

The argument seems valid but question-begging, in that it omits concepts that apply only analogically to God and creatures from the list in premiss 1. Without some independent argument for excluding this option, Ockham can hardly be seen to have refuted Aquinas and others who say that we can conceive of God only analogically.

Ockham borrows another argument from Scotus that could be brought to bear against this position, however. For when we conceive of God analogically, we conceive of Him by means of connotative or denominative concepts. For example, according to an opinion Aquinas rejects, we may take 'God is wise' to mean that God is the cause of wisdom in creatures, and 'cause of wisdom in creatures' is a denominative or connotative concept. Even on Aquinas's own analysis, when we conceive of God as wise, we conceive of Him as something similar to wise creatures with respect to the thing signified by 'wise', viz., wisdom, but who has wisdom in a different way from creatures. But if to conceive of God analogically is to conceive of Him by means of denominative or connotative concepts, then Ockham would follow Scotus in arguing that we cannot conceive of God analogically without having some concept that applies to Him and creatures univocally, in the sense of a concept "which possesses sufficient unity in itself so that to affirm and deny it of one and the same thing would be a contradiction."[111]

109. *Ibid.*, d.2, q.9, (OTh II, 312); cf. *Rep.* III, q.10, (OTh VI, 340–41).

110. *Ord.* I, d.2, q.9, (OTh II, 315).

111. Ockham himself gives a number of different accounts of when things

For Ockham joins Scotus in arguing that we cannot conceive of anything denominatively without also conceiving of it quidditatively:

> ...every denominative concept has a nominal definition in which something is posited in the nominative case (*in recto*) and something in an oblique case (*in obliquo*). Then I ask about one part of that definition, whether or not it has a similar nominal definition. If not, my contention is established, since such a concept is necessarily quidditative. Or it has a nominal definition, and then I ask about its parts as before. Thus, either there will be an infinite process, or we will stop with some quidditative concept that is predicable of what the first denominative concept was predicated of...[112]

For example, the denominative concept '*albus*' ('white') is defined as '*aliquid habens albedinem*' ('something having whiteness'), where '*aliquid*' is in the nominative case and '*albedinem*' in the accusative case. Ockham says that we can ask about each whether it is a quidditative or denominative concept. He here understands the term 'denominative' quite broadly, in such a way that the division between quidditative and denominative concepts is both exclusive and exhaustive; and he assumes that a concept will count as denominative, only if it has the above mentioned sort of definition. He then reasons that '*aliquid*' is either denominative or quidditative. If denominative, it would have such a definition; and if the components of that definition are denominative, they will also have such definitions; etc. But Ockham takes it for granted that an infinite process in definition would be vicious. For since neither our concept 'white' nor any other concept is infinitely analyzable, we will ultimately have to arrive at indefinable components in terms of which other concepts may be defined. Such indefinable concepts will have to be quidditative. Further, just as '*aliquid*' is common to anything that '*albus*' is common to, given the way the former occurs in the definition of the latter;

count as similar and when predications count as univocal and analogical. For a catalogue of these distinctions, see the appendix to this chapter below.

112. *Ord.* I, d.2, q.9, (OTh II, 315).

so if '*aliquid*' were thus definable, some quidditative concept occurring in its definition would be common to whatever '*aliquid*' was common to. The same holds for any denominative concepts applied to God. Consequently, if we conceive of God analogically, we must also have a quidditative concept of Him. And since by hypothesis we do not have any simple concepts proper to God, it must be that we conceive of Him by means of a quidditative concept that is common to Him and to creatures. In particular, Ockham thinks, 'being' and 'something' are quidditative concepts of this sort.

If we must be able to have some quidditative concept of God, Ockham recognizes those who

> ...seem to be of the opinion that we can have only one quidditative concept of God, and that the other concepts are denominative—e.g., concepts such as wisdom are denominative. A persuasive argument for this is that if anything common to many is predicated of one denominatively, it is predicated of the other denominatively. But 'wise' is common to God and creatures and is predicated of a creature denominatively. Therefore, it is predicated of God denominatively.[113]

Ockham responds that "this opinion is not true," and distinguishes what should be said about concrete concepts such as 'wise' from what holds of abstract concepts such as 'wisdom'. Regarding the latter, he reasons that

> ...every non-connotative concept is quidditative with respect to the things from which it is immediately abstracted. But the concept of wisdom is immediately abstracted from Deity and created wisdom. Therefore, it is quidditative with respect to each...[114]

And in general, since abstract perfection concepts such as 'wisdom', 'goodness', 'justice', etc. are univocal to created and divine perfection, and since they are not connotative, they must be quidditative concepts common to God and creatures. On the other hand, the above quoted opinion is right in affirming that

113. *Ibid.*, d.3, q.3, (OTh II, 418–19).
114. *Ibid.*, (OTh II, 419).

concrete concepts such as 'wise' are predicated of creatures denominatively. But it does not follow that they are predicated of God denominatively, as well.

> ...For 'wise' is predicated of a creature according to the following definition: viz., 'having accidental wisdom'. But so understood, 'wise' should not be predicated of God. Rather it is predicated of God according to the definition 'existing wisdom', the way Anselm says in the *Monologium* that 'just' is predicated of God according to the definition 'existing justice' and of creatures according to the definition 'haver of justice'. So understood, 'wise' is not predicated of creatures. Therefore, 'wise' is predicated equivocally of God and creatures.[115]

Therefore, 'wise' is predicated accidentally and *in quale* of Socrates, but quidditatively of God.[116]

Thus, for Ockham, there are many simple quidditative concepts *common* to God and creatures,[117] at least one, for every quidditative concept of *F*-ness such that statements of the form '*x* is *F*' do not entail that *x* is imperfect in any way.[118] Nevertheless, he insists that

> we cannot have many proper and convertible concepts of God of which each is absolute and not connotative, affirmative and not negative, simple and not composite...[119]

either in this life or the next. The reason is that it is logically impossible that there should be many such concepts. For "concepts that express precisely the same thing so far as any content is concerned and express it under the same grammatical or logical mode, are concepts of the same *ratio*."[120] The concept 'man', 'man's', and 'men', are distinct concepts, because—while they signify all and only the same things—they signify them under different grammatical modes. Likewise,

115. *Quodl.* II, q.4, (OTh IX, 123–24).
116. *Ibid.*; cf. *Ord.* I, d.3, q.3, (OTh II, 430–31).
117. *Ibid.*, (OTh II, 419–420).
118. *Ibid.*, d.2, q.3, (OTh II, 98).
119. *Quodl.* V, q.7, (OTh IX, 504); *Ord.* I, d.3, q.3, (OTh II, 419–420).
120. *Ibid.*, (OTh II, 420).

Ockham sometimes speculates that while 'man' and 'humanity' signify all and only the same things, the latter may do so in a different logical mode from the former. But quidditative concepts do not signify some things in one way and others in another, but signify whatever they signify in the same way—directly and absolutely. Thus, if concepts $C_1$ and $C_2$ are quidditative concepts that are proper to the same simple thing, they will signify altogether the same in altogether the same way. Hence, they will not differ in content or be distinct concepts after all.[121]

Further, where composites are concerned, the species is defined in terms of genus and differentia. For example, 'man' is defined as 'rational animal'. And the concept 'rational' signifies directly all and only those things that 'man' signifies absolutely, while 'rational' connotes an essential part, viz., the intellectual soul, of those that 'man' signifies absolutely. But no quidditative concept that applies only to simple things is definable in terms of genus and differentia, because whatever is simple in sense (A) has no essential parts.[122] Consequently, there can be no non-composite denominative concept that signifies directly and without any extrinsic connotation all and only what the quidditative concept signifies absolutely.[123]

It follows from Ockham's reasoning that for there to be many simple quidditative concepts of a simple thing, it is necessary not only that they not all be proper to that simple thing, but also that they be common to different extensions and therefore nonconvertible. Thus, the concept 'wisdom' would not be distinct from the concept 'goodness' if "no real distinction" in their extensions "were possible"—i.e., if it were not at least logically possible that something should exist and fall under the concept 'wisdom' but not under the concept 'goodness' and/or vice versa.[124] Similarly, there can be one quidditative and one connotative concept that applies to a simple thing, only if

121. *Ibid.*, (OTh II, 419–420, 425, 428–29); cf. d.2, q.2, (OTh II, 68–70); d.8, q.3, (OTh III, 207).

122. Cf. *Summa logicae* I, c.23, (OPh I, 74–76).

123. *Quodl.* V, q.7, (OTh IX, 504–505); cf. *Ord.* I, d.3, q.3, (OTh II, 428–29).

124. *Ibid.*, d.2, q.2, (OTh II, 72–73).

the connotative concept signifies—either directly or obliquely—something other than that simple thing.[125]

Given that we can conceive of God in many common, simple, nonconvertible quidditative concepts, Ockham maintains that

> We can cognize the divine essence or quiddity in a concept proper to it but composite and do so in a concept whose parts we are naturally able to abstract from things.[126]

Thus, while each concept of an absolute perfection is common to God and creatures, Ockham insists that "all these concepts can be simultaneously predicated of God alone" and therefore that the composite concept formed from all of them is proper to Him.[127]

If we conceive of God in such common and proper quidditative concepts, Ockham also holds that "we can cognize God in a simple connotative and a simple negative concept proper to Him."[128] It is logically possible that a plurality of connotative or negative concepts should apply to something simple in sense (A). For even if they should signify all and only the same things directly, "there can be many simple denominative concepts of the same thing because of the diversity of connoted objects."[129] Further, even if they were to connote the same objects, they might signify them according to different grammatical or logical modes. As examples of simple connotative concepts, Ockham mentions the concepts 'creative', 'first cause', and 'first act', of simple negative concepts, 'immortal', 'incorruptible', 'not susceptible of generation', 'not susceptible of being caused' Why he regards any but the first of these, viz., 'creative', as simple is something of a puzzle. For one might have thought that any negative concept was composite, and that 'first cause' and 'first act' were compounded from the concepts 'cause' and 'act'

125. *Quodl.* V, q.7, (OTh IX, 505); *Ord.* I, d.3, q.3, (OTh II, 428–29).
126. *Ibid.*, q.2, (OTh II, 402); cf. Prologue, q.9, (OTh I, 266–68).
127. *Ibid.*, d.3, q.2, (OTh II, 403–404).
128. *Ibid.*, (OTh II, 405).
129. *Ibid.*, q.3, (OTh II, 425).

together with the notion of being the first. He could argue with plausibility that either 'first cause' and 'first act' are simple connotative concepts or their analysis will eventually yield a simple connotative concept—perhaps 'cause' and 'act'. But the most this would guarantee is that the resultant concept applied to God, not that it was proper to God.

Further, Ockham recognizes that once supplied with the above catalogued quidditative and denominative concepts that apply to God, we will be able to form many convertible, composite concepts proper to God alone—e.g., 'divine wisdom', 'divine goodness', 'divine intellect', and 'divine will'. He explains that

> ...these concepts are distinct because of a distinction among their component concepts, which either are common quidditative concepts to which some distinct things (*res*) correspond, or they are connotative concepts that connote distinct things (*res*)...[130]

Thus, while the concepts 'divine wisdom' and 'divine goodness' are convertible, the component concept 'wisdom' signifies some actual or possible things not signified by the component concept 'goodness'. And while both of the component concepts 'intellect' and 'will' signify the soul or a spiritual substance directly, the former connotes acts of intellect, while the latter connotes acts of will.[131] As for Scotus's identification of 'infinite being' as the simplest and most perfect proper concept of God naturally possible for us in this life, Ockham rejects it. He fails to see how this concept is simpler than the concepts 'good being' or 'true being', "because a concept composed of a positive and a negative concept is not simpler than one composed of two positive concepts."[132] Nor does he see any merit in Scotus's argument that 'infinite being' is simpler than 'good being' or 'true being', because 'good' and 'true' are properties (*passiones*) of being, while 'infinite being' merely signifies being in a certain intrinsic mode. For

130. *Ibid.*, (OTh II, 430).
131. *Ibid.*
132. *Ibid.*, (OTh II, 423).

> ...whatever is demonstrated of something that is not predicated of it *per se* in the first way is a property (*passio*) of it. But 'infinite' is demonstrated of God, according to them, and it is not predicated of God *per se* in the first way. For nothing that is negative or includes a negative is predicated of anything positive *per se* in the first way. Therefore, 'to be infinite' is a property (*passio*) of God just as 'to be immortal', 'incorruptible', etc. are...[133]

Similarly, Ockham is unpersuaded that 'infinite being' is a more perfect concept than any of the others. "For no negative concept is formally more perfect than a positive concept." And in particular, he fails to see how including the negative concept 'infinite' could make the concept 'infinite being' more perfect than the concept 'highest being', which contains the relative notion 'highest'.[134] In Ockham's opinion, a concept composed of the concept 'being' and the concept of some absolute perfection such as 'wisdom' or some less common perfection concept such as 'divine wisdom' will be more perfect than the concept 'infinite being', and the concept composed of all such absolute perfection concepts will be most perfect of all. Among non-quidditative concepts and composite concepts including at least one non-quidditative component, however, "the concept of infinite being signifies very explicitly that maximum perfection exists in God."[135]

## 8. APPENDIX: OCKHAM'S DISTINCTIONS BETWEEN UNIVOCAL, EQUIVOCAL, AND ANALOGICAL PREDICATIONS

Ockham's own discussion of whether terms are predicated univocally, equivocally, or only analogically of God and creatures is complicated by his multiple and varying accounts of when things count as similar and when predications count as univocal, equivocal, or analogical. He often cites and/or ap-

133. *Ibid.*
134. *Ibid.*
135. *Ibid.*, (OTh II, 424).

proves the view that *a* and *b* are similar, if and only if they have a quality of the same *ratio*,[136] where '*ratio*' seems to be equivalent to 'species' and not to refer indifferently to any concept or being of reason whatever. But at one point in *Reportatio* III, q.10, he implies that *a* and *b* are similar only if (i) they have something essential of the same *ratio*, or (ii) they have something accidental of the same *ratio*, or (iii) they inhere in subjects of the same *ratio* , where '*ratio*' is apparently taken to range over genera and species, and concludes that "there is no likeness" between God and creatures according to this criterion (OTh VI, 335–37). By contrast, in *Ordinatio* I, d.2, q.9, he denies merely that "anything essential or accidental to a creature has a *perfect likeness* to anything that really exists in God" (OTh II, 336, italics mine). And in *Ordinatio* I, d.3, q.10, Ockham remarks that "that creature is most properly called an image of God that has something so *very* similar (*simillimum*) to God that it is precisely common and univocal to God and that creature," and proceeds to argue that rational creatures are the image of God because "rational creatures are *the most similar* to God" (OTh II, 555, 556). But these passages seem to reflect broader and stricter uses of the term 'similar' or 'likeness' more than any substantive difference of doctrine. For he is everywhere of the opinion that the divine essence does not share a genus or species with any created essence.[137] And since the divine essence neither has accidents nor inheres in a subject, it cannot have accidents or a subject of the same genus or species as any creature. Nevertheless, there is sufficient similarity between God and creatures to make it possible for some concept to signify God and creatures equally. Indeed, since natural signification is by resemblance in the broad sense (see Part One, chapter 4), and on the mental-act theory concepts are created mental qualities, Ockham is committed to saying that God is similar to those creatures when he holds that we can conceive of Him at all.

Further, Ockham gives at least three different accounts of

136. *Ibid.*, d.19, q.1, (OTh IV, 4, 7–8, 18); d.30, q.1, (OTh IV, 310).
137. Cf. *Ord.* I, d.8, q.1, (OTh III, 177).

univocal, equivocal, and analogical predication, as well as the relations among them. In *Reportatio* III, q.10, he explains that 'univocal' can be taken in three ways" (OTh VI, 338–39). (R1) In one way, a univocal concept is one that is common only to those that are perfectly similar so far as anything essential or accidental to them is concerned. Ockham apparently does not mean to imply that a concept $C$ can be univocal to $x$ and $y$ in this sense, only if $x$ and $y$ actually have all the same accidents, but rather only if $x$ is the kind of thing that can have any accident that $y$ actually has, and vice versa. Concepts of most specific species such as 'man' and 'donkey' exhaust this category of univocal concepts, according to Ockham. (R2) The second way, a univocal concept is one that is common to some that are neither altogether similar nor altogether dissimilar, but similar in something intrinsic or extrinsic to them and dissimilar in something else. This way the concept 'animal' is univocal to a man and a donkey, since the latter are similar with respect to their matter but dissimilar with respect to their specific forms. Again, the concept 'substance' is univocal in this way to a man and an angel, since they are dissimilar in substance but have accidents—viz., acts of intellect and will—of the same *ratio*. Again, the concept 'color' is univocal to blackness and whiteness in this way, because, although whatever is intrinsic to each is dissimilar to what is intrinsic to the other, they inhere in subjects of the same *ratio*. (R3) The third way, a univocal concept is one that is common to many that have no likeness either so far as anything substantial or so far as anything accidental is concerned. And it is in this sense, not in (R1) or (R2), that concepts common to God and creatures may be said to be predicated univocally. For, Ockham contends, nothing essential to God is of the same *ratio* as anything essential to creatures; and since God neither inheres in nor is inhered in by anything, nothing accidental or extrinsic to Him is of the same *ratio* as anything in creatures either. In the next section,[138] Ockham distinguishes two ways in which 'analogical' can be understood. (R4) The first way, a concept is analogical if it is univocal in

138. *Rep.* III, q.10, (OTh VI, 339–340).

sense (R3). And this way we can equally well say that concepts are predicated analogically of God and creatures. (R5) The second way, we speak of an analogy when there is some comparison between two predications—e.g., when we say that man is to animal as whiteness is to color, or that Socrates is to man as this whiteness is to whiteness. Ockham points out that analogy of this sort may occur, even when the concepts predicated in the propositions on either side of the 'as' are both univocal in sense (R1).

On these definitions, analogical predication will not be a mean between univocal and equivocal predication. And Ockham considers the objection that this treatment does not accord with Aristotle's usage in *Metaphysics* IV. For the Philosopher argues there that just as 'healthy' (*sanus*) is predicated of an animal, a diet, or urine neither univocally, equivocally, nor denominatively, but in an intermediate way, viz., analogically; so 'being' is predicated of substance and accidents neither univocally, equivocally, nor denominatively, but analogically.

Ockham responds that these terms are predicated quidditatively and univocally in some cases and denominatively in others. Thus, 'health' is predicated quidditatively and univocally and not denominatively of the health of any animal; and 'healthy', according to its primary imposition, is asserted of the animal in which such health inheres. But it is predicated of the animal's diet or urine denominatively, according to the concepts 'producer of health' and 'sign of health', respectively, which signify the diet or urine directly but connote the health of an animal. In the same way, according to Aristotle's usage, the spoken word 'being' is taken in one way to signify substances principally and quidditatively by means of a concept proper to all substances. But it "secondarily signifies all accidents" denominatively "by means of many concepts" such as 'disposition of substance', which signifies an accident directly and connotes substance.[139] In any case, Ockham maintains,

139. *Ibid.*, q.10, (OTh VI, 339–340).

> we are not talking about 'being' this way in the present case, but about 'being' that signifies every positive substantial and accidental nature equally primarily and not substance prior to accident.[140]

And the latter concept is the one that applies univocally in sense (R3) to substance and accident, to God and creatures.[141]

In *Ordinatio* I, d.2, q.9, Ockham first contrasts a broader and a narrower sense of 'univocal concept'. (O1) Taken broadly, univocal concepts are distinguished from proper concepts, in such a way that any single concept that can be predicated of many—e.g., 'man', 'white', 'two-footed'—counts as univocal, but proper concepts—e.g., 'Socrates' and 'this whiteness'—do not. (O2) More narrowly, univocal concepts are distinguished from denominative as well as proper concepts, so that 'man' and 'animal' count as univocal, but 'white' and 'two-footed' do not. Conventional signs are univocal or not insofar as they are ordered to a single, univocal concept (OTh II, 307–308). We are then presented with a threefold division of 'univocal'—whether as applied to concepts or to conventional signs—that does not entirely map onto the one already confronted in *Reportatio* III, q.10: (O3) taken one way, a sign is univocal "insofar as it is precisely predicated of many really distinct things that are not really one thing and that are maximally similar to one another" (OTh II, 310). This division corresponds to (R1) and includes only most specific species, "because only individuals of a most specific species are maximally similar to one another" (OTh II, 311). (O4) The second way, univocal signs include "everything that can be predicated of many such that (i) they really differ, (ii) they are not really one thing, (iii) they are not even maximally similar, and (iv) there is one concept that is quidditatively predicated of them" (OTh II, 311). Ockham comments that "a genus is univocal this way" (OTh II, 311). But this category seems to include (R3) as well as (R2), since God and creatures satisfy conditions (i)–(iii) and in article III, Ockham maintains that "there is some single concept common to God and crea-

140. *Ibid.*, (OTh VI, 340).
141. *Ibid.*, (OTh VI, 340–41)

tures and predicable of them quidditatively and *per se* in the first way" (OTh II, 312). (O5) The third way, univocal signs are those "that can be predicated of many that are nevertheless one thing" (OTh II, 311). As we shall see later, Ockham thinks that only the persons of the Trinity—Father, Son, and Holy Spirit—and their personal properties—Paternity, Filiation, and Spiration—are so related. Hence, only concepts common to them, such as 'relation', are univocal in this sense. And Ockham's remark later on that

> ...nothing is univocal to God and creatures where 'univocal' is taken strictly, since there is nothing essential or accidental in a creature that is a perfect likeness of anything that really exists in God. And the Saints and authorities deny this univocity with respect to God and creatures and none other. (OTh II, 317)

seems to revert to a strict sense of 'univocal' that corresponds to (R1) and (R2).

Having drawn these distinctions, Ockham considers a number of doubts, among them that

> ...according to the Philosopher in *Metaphysics* IV, 'being' is asserted of the ten categories the way 'healthy' is asserted of the healthy. But it is obvious that 'healthy' is not asserted quidditatively and univocally of the healthy. Therefore, 'being' is not thus asserted of the ten categories either... (OTh II, 325)

And, although Ockham insists once again that "there is no analogical predication distinct from equivocal, univocal, and denominative predication taken in the broadest sense..." (OTh II, 326), he nevertheless feels compelled to assign some meaning to the claims of the Saints and authorities and proceeds to present us with analyses of equivocal and analogical predication. (O6) Ockham explains that chance equivocation (*equivocatio a casu*) occurs when a name is imposed on many with equal primacy and in such a way that it is imposed on each as if it were not imposed on the others—e.g. the way 'dog' is imposed to signify a barking animal and also to signify a star. (O7) Deliberate equivocation (*aequivocatio a consilio*) occurs when a name is imposed on many things through distinct concepts

because of some likeness or proportion among them. For example, deliberate equivocation is involved when 'man' is applied to a living man and to a pictured man. Again, there is deliberate equivocation when 'healthy' is predicated of an animal, of his diet, and his urine (OTh II, 327–28). (O8) The first sort of analogical predication discussed here is related to (R5) and occurs when there is a similar proportion between diverse groups of things. For example, 'similar' is predicated analogically in 'Figure is similar to figure the way color is similar to color'. This agrees with Aristotle's usage in *Posterior Analytics* II, 99a11–15 (OTh II, 328–29). (O9) The second way, a name $N$ is predicated analogically of $x$, $y$, and $z$, not because there is a single concept common to them to which $N$ is ordered and by virtue of which it applies to them; but rather because $N$ obliquely signifies or connotes the same thing in its application to each of $x$, $y$, and $z$. This way 'healthy' is predicated analogically of an animal, his diet, and his urine (OTh II, 328–29). But when 'analogical predication is understood according to (O8) and (O9), Ockham maintains, it is a species of deliberate equivocation, and so not distinct in kind from univocal, equivocal, and denominative predication.

Returning to the question of how 'being' is predicated of the ten categories, Ockham gives a triple reply. We could suppose that because of a limited vocabulary in the Greek language, there was no name that applied univocally to all of the ten categories, even though all of the things signified by the ten categories agree in a single concept. This would explain Aristotle's comment that the term 'being' is not predicated univocally of the ten categories (OTh II, 334–35). Again, we could grant that the names 'healthy' and 'being' are similar in that each is predicated of many because of their relation to one, but dissimilar in that 'healthy' is not predicated of all of its significata in the same grammatical or logical mode, while 'being' is (OTh II, 334–35). On the other hand, if it is true, as Ockham insists elsewhere (see Part One, chapters 5–8 above), that terms in categories other than substance and quality do not signify any things (*res*) really distinct from substances and qualities, then 'being' will be predicated of substances or

qualities without connoting anything else. But when terms of the other eight categories are put in the subject position and 'being' in the predicate position, 'being' will connote substances and/or qualities. And Ockham argues that this would be consistent with Aristotle's position, even though the latter seems to reserve the quidditative predication of 'being' for substances alone (OTh II, 333–34).

In *Quodlibeta* IV, q.12, Ockham once more considers Aristotle's comment that 'being' is predicated neither univocally, nor equivocally, but analogically of the ten categories the way 'healthy' is predicated of an animal, his diet, and his urine. And again, his response is based on various analyses of 'equivocal', 'univocal', and 'analogical'. He begins by defining 'chance equivocation' and 'deliberate equivocation' according to (O6) and (O7), respectively. He then offers a new division of 'univocal predication': (Q1) Taken strictly, univocal predication occurs "when subject and predicate signify those for which they supposit by a single imposition and by one concept and in one grammatical or logical mode of signifying..." (OTh IX, 356). Ockham comments that "this way every univocal predication is a quidditative predication." For example, 'animal' is predicated univocally of 'man' and 'donkey' in this sense, but 'white' is not. This corresponds to (O2) above. (Q2) Broadly, there is univocal predication "when subject and predicate signify those for which they supposit by a single imposition and by means of one concept and indifferently by one or diverse modes of signifying." Ockham remarks that "this way univocal predication is not essential, but denominative predication"—e.g., "'white' is predicated univocally of 'man' and 'donkey' this way" (OTh IX, 356). He evidently takes the division between (Q1) and (Q2) to be exclusive. Finally, Ockham implies that analogical predication is to be identified with deliberately equivocal predication. Thus, analogical predication may be thought of as a mean between univocal and chance equivocal predication, but not between univocal and equivocal predication taken generally.

Ockham again suggests that Aristotle used the word 'being' in such a way that "it signified substance primarily and accidents

secondarily'' and the former by a quidditative concept and the latter by connotative concepts such as 'disposition of a substance' or 'effect of a substance' (OTh IX, 357). And on this usage, the predication of 'being' of substance and accidents is deliberately equivocal or analogical. Nevertheless, he explains,

> ...according to our usage of the name 'being', it signifies all of its significata by one imposition and by means of one concept and one mode of signifying. For it signifies all beings directly... (OTh IX, 358)

God, substances, and qualities are the only actual or possible things, and each of them is signified directly by 'being'. Since 'God', 'substance', and 'quality' are likewise quidditative, not connotative terms, 'being' is predicated in sense (Q1) of each. If terms in the other eight categories signified directly things really distinct from substances and qualities, then 'being' could be predicated of them and 'substance' univocally in sense (Q1) as well. But if the terms of the other eight categories are all connotative, then '''being' is predicated of them univocally in the broad sense,'' i.e., (Q2), only (OTh IX, 358).

# 22

# Faith and Reason

What is the relation between faith and reason? If doctrinal claims are true, surely they must not be contrary to reason. And a theologian's job must be to formulate them in a way that shows how they are intelligible. Medieval theologians commonly attempted more, holding that many Christian beliefs could be proved from premisses that would command all reasonable assent. Nevertheless, the success of their project was necessarily limited by the mystery of a Triune and Incarnate Godhead. Although the boundaries were differently drawn by Anselm, Aquinas, and Scotus, the truths that reason can in some measure grasp and prove—such as the existence and many of the attributes of God—were assigned to the province of natural theology, while those that lay beyond it fell within the scope of revealed theology.

Against the impressive apologetic programs of his predecessors, Ockham is often viewed as a theological sceptic, whose philosophical opinions are positively inimical to theology. His rigorous standards allegedly exclude most doctrinal tenets from demonstrative knowledge, while his critical eye identifies controversial premisses in their supposed proofs. Beyond that, his own ontology—particularly his theory of universals and relations—makes an orthodox formulation of the doctrines of the Incarnation and the Trinity impossible. Does he not admit this himself when he declares the latter to be "beyond any understanding"?[1]

These charges contain a mixture of truth and falsehood. We have already examined (in chapter 21 above) Ockham's relatively optimistic verdict on our ability to conceive of the Godhead

1. *Ord.* I, d.2, q.1, (OTh II, 17–18).

in this life. Here our focus must be on what doctrinal propositions can be understood and known by human beings: first by the Blessed who see God and then by the *viator* who does not. I shall close with Ockham's treatment of the doctrines of the Incarnation and the Trinity, and a word about his theological method. In the end, I think it is far from clear that Ockham's approach is religiously dangerous.

## 1. SOME PRELIMINARY POINTS

For Ockham, the issue is whether evident knowledge of theological truths is possible for human beings. A theological truth is one that a *viator* must have if he is to gain eternal happiness. Of these, some are naturally knowable—e.g., 'God exists'—while others are supernaturally knowable—e.g., 'God is three in one', 'God is Incarnate'—which marks the distinction between natural and revealed theology.[2] Recall that for Ockham, broadly speaking, evident knowledge of a proposition $p$ is possible if (i) $p$ is knowable immediately through intuitive cognition, or (ii) $p$ is known *per se*, or (iii) breaks down into (a) propositions inferable by an immediate inference from contingent proposition known the first way, through intuitive cognitions—e.g., 'Heat can produce heat' from 'This heat produces heat'—and (b) those inferable through syllogistic reasoning, and (c) those inferable by a combination of (a) and (b). Propositions that can be demonstrated—i.e., proved by syllogistic reasoning from necessary premisses that are epistemologically prior to their conclusions—form a subclass of (iiib) (see chapters 12–14 above).

Drawing on his epistemology, however, Ockham further observes that two sorts of mental propositions can correspond to spoken and written propositions about God such as 'God exists', 'God is good', 'God is omnipotent', 'God is Father, Son, and Holy Spirit', 'God is Paternity'. From the viewpoint of the objective-existence theory, one sort has as terms the objectively

2. *Ibid.*, Prologue, q. 1, (OTh I, 7).

existent God or the divine essence, divine goodness, divine persons, or the personal properties of Paternity, Filiation, and Spiration; the other sort has simple or composite abstract general concepts.

Ockham makes it a matter of definition that a *viator* is one who lacks any intuitive (and hence any abstractive; cf. chapter 1 above) cognition of the Godhead.[3] Accordingly, he concludes that the first sort of mental propositions about God are accessible only to the Blessed who see God, while the second can be formed by the Blessed and the *viator* alike.[4] And he devotes a considerable portion of questions 1 and 2 of the Prologue to describing how the theology of the Blessed measures against the canons of the Aristotelian theory of demonstration; his fuller consideration of the theology of the *viator* is dispersed throughout the *Sentence*-commentary. In what follows, I shall consider each in turn.

## 2. THE THEOLOGY OF THE BLESSED

According to Ockham, the evident knowledge that the Blessed possess about God will be extensive, although much of it will not be demonstrative but either immediate in the form of propositions based on intuitive cognition or known *per se* or derivable by some sort of non-syllogisitic inference from these. Thus, Ockham reasons that since the Blessed are endowed with an intuitive cognition of the divine essence, the divine persons, and their constitutive properties, they will be thereby caused to form and give evident assent to the proposition 'God exists', where the objectively existent divine essence itself is the subject term of that preposition. Likewise, they will form the propositions 'God is good', 'God is wise', 'God is omnipotent' in which the objectively existent divine essence is the subject term and the objectively existent divine goodness, wisdom, and omnipotence are the predicate terms. But since—contrary to

3. *Ibid.*, (OTh I, 48–49).
4. Cf. *ibid.*, q.9, (OTh I, 269–270).

Aquinas, Scotus, and others—the divine attributes are the same as the divine essence in every way in which the divine essence is the same as itself, Ockham concludes that such propositions will have altogether the same thing in the subject and predicate positions and hence will be immediate and evidently known.[5] Similarly, they can form the propositions 'The Father is good' in which the objectively existent God the Father is the subject term and the objectively existent divine goodness (which is altogether identical with the divine essence) is the predicate term, or 'The Father is Paternity' in which the objectively existent God the Father is the subject term and the constitutive property Paternity is the predicate term. Since God the Father is constituted out of the divine essence and Paternity,[6] it follows that these propositions will be immediate and known *per se*. Likewise, 'God or Deity is three persons' would be known *per se*.[7]

Again, the Blessed will be able to form mental propositions corresponding to 'God is a being' and 'God is wise' in which the objectively existent divine essence is the subject and a common absolute concept such as 'being' or 'wise' is the predicate. And all such propositions will likewise be immediate the way 'A man is an animal' is immediate,[8] and the Blessed will be caused to know them through their intuitive cognition of the divine essence.[9]

On the other hand, they will be able to form mental propositions in which the divine essence is the subject term and some connotative concept is the predicate term. Where the latter is common, e.g., 'good' that is a *passio* of 'being', the Blessed can sometimes have evident knowledge of the proposition by means of an *a priori* demonstration: e.g., 'Every being is good; God is a being; therefore God is good'.[10] Where the connotative

5. *Ibid.*, q. 1, (OTh I, 102–103, 119–126); cf. chapter 21 above.
6. *Ibid.*, d.26, q.1, (OTh IV, 156–58).
7. *Ibid.*, Prologue, q.1, (OTh I, 51).
8. *Ibid.*, q.2, (OTh I, 114).
9. *Ibid.*, q. 1, (OTh I, 51).
10. *Ibid.*, q.2, (OTh I, 114–15).

or negative concept is proper to God—e.g., 'creative', 'eternal', 'infinite', 'immortal'—the resultant predications cannot be demonstrated about God, because no appropriate middle term will be available. Ockham rejects the suggestion that 'God is creative' can be demonstrated in 'Everything that can produce something from nothing is creative; God can produce something from nothing; therefore God is creative', on the ground that the putative middle is the nominal definition of 'creative'. But

> given that one knows that to be creative is the same as to be able to produce something out of nothing, one cannot know the proposition 'God can produce something out of nothing' and doubt the proposition 'God is creative'

so that the premisses are not epistemologically prior to the conclusion in the way required for a demonstration; rather the argument commits the informal fallacy of begging the question.[11] Some such propositions might be inferable from contingent propositions evidently known through intuitive cognition, however: e.g., 'God is creative' could be inferred from 'God is creating'; 'God can be Incarnate' from 'God is Incarnate', just as 'Heat can produce heat' is from 'This heat produces heat'.[12]

Finally, since the Blessed will have not only an intuitive cognition of the divine essence and the divine persons as they are in themselves, but also composite concepts proper to them of the sort the *viator* can have in this life, they will be able to form mental propositions in which such a composite concept is the subject term with any of the above sorts of predicates. And the Blessed will be able to demonstrate these using the objectively existent divine essence or person or personal property as a middle term and one or more syllogisms.[13]

Thus, although Ockham repeatedly explains how the Blessed cannot know this or that theological proposition by demonstra-

11. See chapter 12 above; *ibid.*, (OTh I, 116–17).
12. *Ibid.*, q.1, (OTh I, 51).
13. *Ibid.*, q.2, (OTh I, 117–18).

tion, or knowledge properly speaking, this is not because he wishes to deny them such knowledge but because he thinks it is evident some other more immediate way.

## 3. THE THEOLOGY OF THE *VIATOR*

When people ask which theological claims can be known by human beings, they usually have the cognitive vantage point of the *viator* in mind. The later middle ages seems to record an ever diminishing confidence on this issue. Perhaps St. Anselm was the most hopeful. In his *Monologium*, he first argues that there is a supreme nature that exists and has all perfections through itself (c.1–28), then that it is Triune (c.29–64), and finally that it is God (c.74). His *Proslogion* is streamlined with his famous ontological argument that a being a greater than which cannot be conceived exists in reality (c.2) and necessarily (c.3) and has all perfections *per se* (c.5). And in the *Cur Deus Homo*, he undertakes the monumental task of giving reasons to show that the Incarnation was necessary. Aquinas denied that the doctrine of the Trinity and Incarnation could be proved, but thought that unaided natural reason could go a long way towards establishing the existence and attributes of God. In the Five Ways, he argues that there is an unmoved mover, a first efficient cause, a being that exists necessarily through itself on which other things depend for their existence, a being that has all perfections *per se*, and a supreme governor of the world.[14] He then tries to prove that a first cause or being that has all perfections *per se* is simple (q.3), immutable (q.9), infinite (q.7), eternal (q.10), omniscient (q.14), and infinite in power (q.25, a.2) and purports to show that there is only one such being (q.11, a.3). Although Scotus rejects many of Aquinas's arguments, he thought he could demonstrate the existence of God by proving the existence of an infinite being.[15] He then ar-

14. *Summa theologiae* I, q.2, a.3.

15. *Ord.* I, d.2, p.1, q.1–2, n.41–73, (Vaticana II, 147–173); *Lectura* I, d.2, p.1, q.1–2, n.39–62, (Vaticana XVI, 124–133).

gues that such a being has intellect and will, is of infinite power, and is thus an infinite being.[16] Finally, he argues that there is only one such being.[17]

By comparison with Anselm, Aquinas, and Scotus, Ockham's expectations of natural theology were quite modest but not altogether sceptical. True, he found many of their arguments to fail as proofs because the philosophers—Aristotle, Avicenna, and Averroes—had actually denied some of their premisses; such reasoning might persuade those who believed the premisses but they would not yield evident knowledge of their conclusions. Nevertheless, Ockham did not reject all *a priori* principles, but thinks that some can be successfully marshalled in the effort to prove God's existence. In this section, I shall focus on what Ockham thinks can be proved from causality and perfection regarding God's existence and unity. Later chapters will deal with his critique of attempts to prove the extent of God's knowledge and power.

(3.1) *Proofs from Efficient Causality*. Many causal arguments start from some phenomenon, such as the fact that something comes into or remains in existence, or the fact that something is in motion or changes, and proceed by means of *a priori* causal principles such as

(T1) being does not come from non-being,

that is to say, nothing happens or comes to be by chance, and

(T2) there is a sufficient causal explanation for any causal series,

either in the existence and activity of a first member of the series, or in that of a cause outside the series that explains the existence and activity of members of the series. Either way, such arguments purport to establish the existence of something

16. *Ord.* I, d.2, p.1, q.3, n.163–177, (Vaticana II, 175–221).

17. *Ibid.*, (Vaticana II, 226–234); *Lectura* I, d.2, p.1, q.3, n.104–122, (Vaticana XVI, 147–152).

different in kind from the proximate, created cause of the phenomenon—something which "all men call God."[18]

Ockham views Duns Scotus's elaborate argument from efficient causality as an attempt to apply this strategy to a series of causes of production in existence. But as we have seen (in Part Four, chapter 18 above), Ockham thinks that all of the causes, properly speaking, of something's coming into existence are immediate; if in the natural course of things there are many, then they are immediate partial causes. Any series of proximate and more remote causes in which each produces the next in existence, such as the series of fathers and sons, will be a *per accidens* series. Contrary to what many commentators suggest,[19] Ockham does not reject (T2), but denies that its application to such a series of producing causes can lead to a first cause different in kind from the proximate causes in question. Thus, regarding the series of fathers and sons, Ockham charges that it is difficult[20] or impossible[21] to prove by natural reason alone (i) "that one man cannot be produced by another man as his total cause," or (ii) "that this infinite process would be possible only if there were one outside the series that always remained on which the whole infinity depended."[22] Ockham makes these points repeatedly in the *Quaestiones in libros Physicorum*, q.135–36. Thus, he writes,

> ...I grant that the totality of caused things is itself caused. But someone basing himself only on natural reason would deny this reasoning, because he would say that one of the things that are caused is caused by another member of that multitude, and this one again by another member of the multitude and so on to infinity. The opposite cannot be proved from production.[23]

18. Cf. *Summa theologiae* I, q.2, a.3.

19. Harry Klocker, "Ockham on Efficient Causality," *Thomist* XXIII (1960): 106–123. Edward Grant, *Physical Science in the Middle Ages*, (New York, 1971), chap.3, 30. Ernest Moody, "Empiricism and Metaphysics in Medieval Philosophy," *Studies in Medieval Philosophy, Science and Logic: Collected Papers (1933–1969)*, (Berkeley and Los Angeles, 1975), 287–304.

20. *Ord.* I, d.2, q.10, (OTh II, 355).

21. *Quaest. Physicorum*, q.135, (OPh VI).

22. *Ord.* I, d.2, q.10, (OTh II, 355).

23. Boehner ed., in *Ockham: Philosophical Writings*, (Edinburgh and

Should it be objected that this is to make the whole multitude a cause of itself and hence in violation of the principle

(T3) nothing can be an efficient cause of its own existence,

Ockham denies it:

> ...it does not follow further that a thing is the cause of itself, since the whole multitude is not caused by any one cause. But one is caused by one member of the multitude and another by another.[24]

And again,

> ...the whole multitude of both essentially and accidentally ordered causes is caused. But it is not caused by any one thing that is part of the multitude or by something that is outside the multitude. But one is caused by one member of the multitude and another by another and so on to infinity. Nor can the opposite be proved from production. And in that case, it does not follow that [one and] the same thing is the cause of the whole multitude or that the same thing is the cause of itself, since no one thing is the cause of everything.[25]

So long as we focus on the *per accidens* series of causes of production in existence, natural reason will not allow us to trace back through Jacob and Isaac and Abraham to anything more than Jacob's remote grandfather, begotten by a still more remote grandfather, none of whom is the one that "all men call God."

Ockham thinks that the desired conclusion can be established "with greater evidence" if one begins with the fact that something begins to exist (and hence by (T1) was produced in existence) and continues to exist for some time thereafter, together with a further *a priori* principle

(T4) Whatever is really produced by something is also really conserved by something.

London, 1962), 120.

24. *Ibid.*, q.135, (Boehner ed., 126); cf. 120–21.

25. *Ibid.*, 124.

And he reasons as follows both in *Ordinatio* I, d.2, q.10, and in *Quaestiones in libros Physicorum*, q.136:

1. It is certain that a particular effect is produced. (T1)

2. Therefore, that particular effect is conserved by something—$C_1$—as long as it remains in existence. (1 and T4)

3. Either the conserving cause $C_1$ can be produced by something else or not.

4. If not, $C_1$ is the first efficient cause of conservation.

5. If $C_1$ is produced by something else, then there is something else—$C_2$—that conserves $C_1$ in existence.

6. Either $C_2$ was produced in existence or not.

7. No infinite process is possible in conserving causes.

8. Therefore, there is a first efficent cause of conservation. (6 and 7)

Ockham cannot consistently regard this argument as a demonstration, in part because premiss 1 is contingent. But he takes 1 to follow by an evident inference from (T1) together with a proposition evidently known through intuitive cognition, and so regards it as an adequate starting point for a proof.

Ockham finds the chief advantage in arguing from conservation instead of production to be the relative ease in establishing the "no infinite process" principle.[26] For unlike the *per accidens* series of producing causes, he thinks the—presumably *per accidens*—series of conserving causes is bound to end, not because of (T2), but because of the alleged impossibility of an actual infinity of distinct things existing simultaneously. Thus, he defends 7 as follows:

26. *Ord.* I, d.2, q.10, (OTh II, 356).

9. Everything that conserves something else, whether mediately or immediately, exists simultaneously with the thing conserved.

10. If infinitely many things act to conserve one another at a given time, then infinitely many things exist at that time. (9)

11. It is impossible that infinitely many distinct things that do not combine to make any thing one *per se* exist at one and the same time.

12. Therefore, it is impossible that there be an infinite process in causes acting to conserve a given thing in existence at a given time. (10 and 11)

9 merely instatiates the medieval causal maxim that causes properly speaking are simultaneous with their effects. And we have seen (in Part One, chapter 5 above) how 11 was only just becoming controversial in Ockham's day. Presumably in writing *Ordinatio* I, d.2, q.10 and *Quaestiones in libros Physicorum*, q.135–36, he was taking for granted what he says more explicitly in *Quodlibeta* III, q.1: "to have the power to produce infinitely many simultaneously is to have infinite power. But God does not have such power, because this involves a contradiction" (OTh IX, 203).

Not only must the chain of conserving causes come to an end: it must stop with something different in kind from the things with which it started: viz., with something that is not produced in existence and hence cannot be shown by (T4) to need a conserver. Nevertheless, Ockham thought that this conclusion would be of limited value to natural theology. For according to Aristotelian physics, the heavenly bodies and separate substances neither come into nor go out of existence and so do not fall under the scope of (T4). Consequently, he concludes, natural reason cannot show that these need to be conserved as generable and corruptible things do. Step 8 cannot, by itself,

take us beyond an angel or a star,[27] and is fully compatible with a plurality of unconserved conservers. No wonder that in *Ordinatio* I, d.35, q.2, he contends that there is no adequate proof that a first efficient cause is the first being, which all men would call God (OTh IV, 437).

(3.2) *Proofs from Perfection*. According to Christian belief, not only is God the efficient cause of everything else, His perfection surpasses that of everything else, actual or possible. The hierarchy of perfection or "eminence" among things affords another approach to proving the existence of God. Anselm blazed this trail both in the *Monologium* and *Proslogion*. The former work takes 74 chapters to establish the existence of a supreme nature whose properties justify identifying it with God. In the preface to the latter, he explains how he had hoped to find "a single argument which would require no other for its proof than itself alone; and alone would suffice to demonstrate that God truly exists," and indicates how the famous "ontological" argument of chapter 2 was the object of that search. He says there by 'God' we understand 'a being a greater than which cannot be conceived' and argues that such a being exists in reality (c.2) and necessarily (c.3) and is whatever it is in general better to be than not to be (in effect, is maximally perfect, c.5[28]).

Apparently, Ockham did not share Anselm's confidence in his strategy. In a terse and obscure remark in *Quodlibeta* VII, q.15, he comments that the argument could be construed as the adequate proof of a weaker conclusion—that a being than which no really existing thing is in fact nobler and more perfect, really exists—but it cannot demonstrate the real existence of a being than which none nobler or more perfect is logically possible (OTh IX, 761).

In fact, Ockham suggests in *Quodlibeta* I, q.1, the word 'God' can be used in two other ways: (i) to mean 'a being that is nobler and better than anything other than itself', or (ii) to mean 'something than which there is none nobler or better'. If 'God'

27. *Quodl.* II, q.1, (OTh IX, 107–108).
28. Cf. *Reply to Gaunilo*, c.10.

is understood in sense (i), then it follows that *at most* one God exists:

> ...For if there were two Gods—say *A* and *B*—then, according to that descriptive definition [i.e., according to (i)] *A* would be more perfect than anything other than itself. Thus, *A* would be more perfect than *B* and *B* would be more imperfect than *A*. Likewise, *B* would be more perfect than *A* since *B* is God according to the assumption. Consequently, *B* would have to be more perfect and more imperfect than *A* and *A* than *B*—which is an obvious contradiction. (OTh IX, 2–3)

But Ockham does not think it can be known with certainty that at least one God exists where 'God' is understood in sense (i), much less in Anselm's sense. For the proposition 'God exists' is not known *per se*, since many doubt whether any single being really exists that is nobler and more perfect than any other really existing thing. Nor is the existence of such a being evident from experience. And if one examines the purported proofs of this proposition such as are offered by Anselm, Aquinas, and Scotus, Ockham contends, we will find that "every argument assumes something debatable or derived from the faith" (OTh IX, 2). By contrast, he writes that

> We must understand, however, that it can be demonstrated that God exists, where 'God' is taken the second way mentioned above. For if there were not something among beings than which nothing is prior and than which nothing is more perfect, then there would be an infinite process. But it does not follow from this that it can be demonstrated that there is only one such being. We hold this only by faith...(OTh IX, 3)

Many equally perfect beings could simultaneously satisfy the description 'nature than which none is in fact nobler or better'; to prove that there is only one would be tantamount to showing that something satisfies the description 'nature that is in fact nobler and better than every other'—which Ockham judges impossible.

The proof that there is a God in sense (ii) proceeds from the *a priori* principle

(T5) an infinite process in actually existing natures each of

which is nobler and better than the preceding is impossible,

together with the factual premiss

13. Something exists.

But while Ockham obviously regarded both as necessarily true, he must be speaking loosely when he identifies the argument as a demonstration. For while we can know 13 to be true prior to knowing that God exists, we cannot know it to be necessary prior to knowing that God exists necessarily.[29]

The argument's claim to supply even evident knowledge depends on the plausibility of (T5), however, and it is not clear how Ockham would defend it. Not by appealing to the principle that

(T6) there are only finitely many possible kinds of things,

because in *Ordinatio* I, d.44, q.u, Ockham remains officially agnostic as to the number of possible species (OTh III, 652–53). Indeed, he suggests that even if there were infinitely many species, they might not form a series of ever increasing perfection, because there might be some maximum level of perfection in creatures (OTh IV, 654–55, 661). Alternatively, he may take for granted an appeal to

11. It is impossible that infinitely many distinct things that do not combine to make anything one *per se* exist at one and the same time

—which entails (T5).

Once again, Ockham explicitly acknowledges the result in

29. Boehner is thus wrong to make so much polemical hay out of Ockham's use of the word in "Zu Ockhams Beweis der Existenz Gottes," *Collected Articles*, #22, 399–420. I agree with the general thrust of Boehner's opposition to De Wulf, however.

14. there is a nature than which none is in fact nobler and better

to be of limited theological value because he sees no route from 14 to the further conclusions

15. there is a nature that is in fact nobler and better than any other

or

16. there is a nature than which a nobler or better is logically impossible.

Evidently, 14 like (i), may reach no further than the stars or separate substances.

(3.3) *Abortive Proofs from Final Causality.* Unlike the more mechanistic philosophies of the ancient and modern classical periods, Aristotle saw the material universe not only as moving and changing at the agency of efficient cases, but as moving and changing for the sake of an end by means of final causes. Material things have built-in natural activities or functions, and their motions or changes are directed towards the end of carrying out those functions. And Aristotle maintained that the first being, the unmoved mover, was the final cause of the motion of the heavens and hence the ultimate final cause of all motion and change in the universe, by serving as the object of desire.

Some Christian Aristotelians seized on two aspects of this picture—(i) the claim that the activities of material things, whether or not they are capable of cognition, are ordered to an end; and (ii) the notion that the first being is the ultimate final cause of all motion and change in the universe—as the basis of further arguments for the existence of God. Aquinas was Aristotelian enough to accept (i) and un-Aristotelian enough to maintain that

(T7) only an intelligent and voluntary cause can order the activities of anything to an end,

and he combines them in the Fifth Way to conclude that "there is something intelligent that orders all natural things to an end, and this we call God."[30] By contrast, Henry of Ghent[31] and Duns Scotus[32] use (i) as a basis for inferring (ii) that God is the ultimate final cause of all motion and change in the universe.

If Ockham thought the proofs from efficient causality and perfection would not carry the theologian as far as he wanted to go, he would deny that the latter two strategies can advance him any distance at all. (3.3.1) As for the first strategy, used by Aquinas, he would declare it defeated by an ambiguity in the claim that material things act uniformly for the sake of an end (and a corresponding ambiguity in (T7)). For 'end' might mean "the end loved and established in advance by the will" as when I decide to take a walk for the sake of my health; or it could refer to the activity or effect that material things of a certain sort tend, always or for the most part, to produce; for example, fire tends to produce heat in nearby objects.[33] Contrary to Aquinas's hope, Ockham contends that it is impossible to derive evident knowledge of the former from the latter. For where material things that lack cognition are concerned, three explanations of their activity seem available: that they act or change (a) by chance, (b) by natural necessity, or (c) because they have been ordered so to act by something else, ultimately by the choices of an intelligent agent. Aristotle's definition of 'chance' (in *Physics* II, 5, 19b10–16) makes it contradictory to hold (a) that such material things act uniformly by chance. But Aristotle had insisted, contrary to (T7), that material things that lack cognition such as fire act uniformly (b) by natural necessity. And Ockham concludes that

> it cannot be adequately proved or demonstrated, or be known by means of principles known *per se* or by experience that the agent that

30. *Summa theologiae* I, q.2, a.3.

31. *Summa quaestionum ordinararium*, a.22, q.4.

32. *Ord.* I, d.2, p.1, q.1–2, n.60–63, (Vaticana II, 165–67); *De primo principio*, c.3, sec.3.29–3.33, (Wolter ed., 59–61).

33. Cf. *Quodl.* IV, q.2, (OTh IX, 301).

> acts of the necessity of its nature acts according to such a final cause pre-established by the will..."[34]

If Ockham judges the appeal to the uniform motions of non-cognizant material things a failure, he denies that their aberrant motions provide a more promising basis of proof. Responding to the objection that

> ...any particular nature seeks the health of the universe more than its own. Therefore, it seeks the good of the governor of the universe more than its own. The premiss is clear, because a heavy object naturally rises lest there be a vacuum, and it would not do this if it did not tend towards the good of the governor of the universe.[35]

Ockham rejects the premiss, "because the particular nature does not seek the good of the universe or that of the governor of the universe more than its own."[36] As for the behavior of heavy objects, he insists that "the heavy object rises lest there be a vacuum, not for the sake of some good of the governor of the universe," apparently writing it off as a case in which the natural motion of the heavy object encounters a purely natural obstacle.[37]

Thus, in Ockham's opinion, the motions or changes of material things, cognizant or not, will not lead unaided natural reason to a provident governor of the universe who orders them to an end. The uniform motion of non-cognizant material things can be explained by natural necessity; their aberrant motion, nearly always in terms of natural obstruction. On the other hand, intelligent humans and separate substances sometimes do act for the sake of ends established in advance by their own wills.[38]

(3.3.2) Henry of Ghent and Duns Scotus implement the second strategy in different ways. Henry begins[39] with the claim

34. *Ibid.*, (OTh IX, 302).
35. *Ibid.*, (OTh IX, 304).
36. *Ibid.*, (OTh IX, 306).
37. *Ibid.*
38. *Ibid.*, (OTh IX, 302–303).
39. In *Summa quaestionum ordinararium*, a.22, q.4, (Paris, 1520, fol.133R–134S).

that something is ordered to an end, and that end to another end, etc., and then invokes the *a priori* principle that

(T8) it is impossible for there to be an infinite process in final causes,

to conclude that a first final cause exists. By contrast, Scotus begins with the possibility that something should be ordered to an end, and infers that a first final cause is possible, uncausable, and therefore actual.[40]

Although Ockham does not explicitly respond to either of these arguments, he would charge that Henry's strategy is fundamentally misguided. For Ockham explains in *Quaestiones variae,* q.4, that *F* is a final cause of an agent *A*'s activity with respect to a thing *x*, if and only if (iii) *F* is an object of *A*'s thought and love, (iv) *A* loves *x* for the sake of *F*, and (v) *A*'s love of *x* is "formally imperative" (i.e., a partial efficient cause) of *A*'s activity with respect to *x*.[41] Thus, '*F* is a final cause of *A*'s activity with respect to *x*' entails neither '*F* is an efficient cause of *A*'s activity with respect to *x*' nor '*F* is an efficient cause of *A*'s love for *F*'. Rather "the causality of the end is only for it to be loved and desired by the agent that is the efficient cause and to be that for the love of which the effect is produced."[42] From this, Ockham concludes that "sometimes the end is a cause when it does not exist, because sometimes the end is desired when it does not exist"[43] and (T1) applies to efficient but not to final causes. Thus, even if natural reason could establish that God is the first final cause of some motion or change, that would not be enough to show that God really exists.

By the maxim *ab esse ad posse valet consequentia*, Ockham would concede to Scotus the possibility that something should have a final and presumably therefore a first final cause, but

40. *Ord.* I, d.2, p.1, q.1–2, n.60–63, (Vaticana II, 165–67), and *De primo principio*, c.3, sec.3.29–3.33, (Wolter ed., 59–61).

41. Cf. *ibid.*, (OTh VIII, 126–27).

42. *Quodl.* IV, q.1, (OTh IX, 293).

43. *Ibid.*, (OTh IX, 294).

would fault his proof at the second stage. Scotus reasons that the first final cause cannot, by definition, have a final cause. But since

(T9) every agent acts for the sake of an end,

the first final cause cannot have an efficient cause either. Likewise, it cannot have a material or formal cause, because every compound of matter and form has an efficient cause that unites it. Therefore, the first final cause is altogether uncausable.[44] But Ockham denies that unaided natural reason can have evident knowledge of (T9) where 'end' is taken the first way, because "there can be no evident knowledge that a naturally produced effect has a final cause."[45] Thus, in answer to the objection that

> ...the ultimate end is either uncausable and incorruptible or not; if it is, then it exists necessarily; if not, then if it is caused, it has a final cause; and I ask about it to infinity,

Ockham writes that

> ...it cannot be demonstrated that it is uncausable. And in that case it does not follow 'it is caused; therefore it has an end', since an adversary would say that it is caused naturally and not freely...[46]

But if Scotus cannot show that the first final cause is uncausable, his attempt to infer its actuality from its possibility fails.

## 4. OCKHAM'S PHILOSOPHY AND REVEALED THEOLOGY

If Ockham's philosophical opinions greatly reduce the scope of natural theology, they face a still more serious charge: viz., that his ontology leads to heresy regarding the central tenets of

44. *Ord.* I, d.2, p.1, q.1–2, n.61, (Vaticana II, 166).
45. *Quodl.* IV, q.2, (OTh IX, 307).
46. *Ibid.*

revealed theology. More particularly, his contention that there are no relative things really distinct from absolute things combines with his theory of universals to obstruct any intelligible formulation of the doctrine of the Trinity and yields the Nestorian heresy in Christology. These charges combine truth with misunderstanding. But before turning to Ockham's actual treatment of the doctrines of the Trinity and Incarnation, respectively, it is helpful to distinguish three often conflated questions: (i) do generalized versions of Ockham's metaphysical theories imply heretical conclusions? (ii) does Ockham himself endorse conclusions that have been anathematized? and (iii) was Ockham himself a heretic? A heretic is one who persists in holding theses he knows to have been condemned by the Church. Even if the answers to questions (i) and (ii) were affirmative, the reply to (iii) might be negative, either because Ockham did not appreciate the consequences of his views, or because he did not know that the propositions were condemned, or because they were not condemned until later. Nor does an affirmative answer to (i) dictate a similar reply to (ii), because Ockham might make exceptions to his theories for important theological cases.

(4.1) *Ockham's Philosophy and the Doctrine of the Incarnation.* Some[47] have claimed that Ockham's theories of relations and universals lead twice over to Nestorianism in Christology. In 451 A.D. the Council of Chalcedon declared it anathema to deny that

(T10) In Christ, there are two distinct natures—one human and one divine,

and

(T11) In Christ there is a real unity of natures in a single person or suppositum.[48]

47. Peter Geach, "Nominalism," in *Aquinas: A Collection of Critical Essays*, ed. Anthony Kenny, (Garden City, NY, 1969), 139–154.

48. Henricus Denzinger, *Enchiridion symbolorum, definitionum et*

Rejecting (T10), some Gnostics denied any human nature to Christ, while some Adoptionists insisted on His humanity to the exclusion of His divinity. By contrast, Nestorius affirmed (T10) but was accused of controverting (T11) by holding that there are two distinct persons in Christ, one human and one divine, and no real unity between them.[49] In medieval theology, (T11) was explained by saying that the second person of the Trinity, God the Son or the Divine Word, had assumed the human nature in such a way that there was a real union between them and the Divine Word is the only person or suppositum there.

Ockham argues vigorously, however, that unaided natural reason would find it easier to deny than to affirm the existence of relative things really distinct from absolute things (see chapter 7 above). If there are no relative things, how could there be any real relation of union connecting the two natures of Christ? Further, Ockham denounces the belief that particulars are metaphysical composites of universals or common natures and individuating principles. For him, every real human nature is particular: Socrates *is* one particular human nature and Plato *is* another, and everything that is essential to Socrates is in and of itself, numerically distinct from anything and everything, essential to Plato (see chapters 2–4 above). But if every created nature in the genus of substance is identical with its suppositum, it will be true that every humanity is a man and every man a humanity. If the Divine Word is also a suppositum, it follows that—contrary to (T11) and in accord with Nestorius—there are two distinct supposita or persons in Christ, one human and one divine.

(4.1.1) *Relations and Christology.* Defending himself against such charges, Ockham would deny following his theory of relations to any heretical conclusions where the doctrine of the Incarnation is concerned. We have already seen (in chapter 7 above) how, contrary to expectation, Ockham does not reject the inference from

*declarationum de rebus fidei et morum*, (Friburgi Brisgoviae, 1932), 70–71.

49. J. N. D. Kelly, *Early Christian Doctrines*, (London, 1958), chap.6, 138–162; chap.11–12, 280–343.

(T11) in Christ there is a real unity of natures in a single person or suppositum

to

(T12) the divine and human natures in Christ are united by a real thing (*res*) really distinct from each and inhering in the human nature,

but finds it to be sustained by his own principle that

(T13) it is impossible for contradictories to be true successively about the same thing unless because of locomotion, the passage of time, or the production or destruction of something.

For he reasons that

> it is possible for the nature first not to be united and later to be united or vice versa apart from any locomotion. Therefore, since the passage of time is not enough to account for the change in truth-value, it must be that something new is produced or destroyed there...[50]

And although Ockham's metaphysical sympathies would have agreed with Peter Aureol in favoring

(T14) what unites the divine and human natures in Christ is a really distinct absolute thing,

his principal *ex professo* treatment of the Incarnation in *Reportatio* III, q.1, joins the majority theological consensus in favor of

(T15) what unites the divine and human natures in Christ is a really distinct relative thing.

Thus, he declares, "that union is a real relation really different

50. *Ord.* I, d.30, q.4, (OTh IV, 369); cf. *Rep.* III, q. 1, (OTh VI, 5).

from the extremes." "Nor should it be imagined that the union is a certain chain binding human nature to the divine nature and vice versa,"[51] as if a real relation were a single accident simultaneously inhering in both relata at once. Rather just as some of his opponents imagine that a really distinct relative thing inhering in a creature $x$ make both the proposition '$x$ is created by God' and the proposition 'God creates $x$' true, so Ockham maintains that the foundation of the real relation of union "is human nature, not divine nature, since only the human nature is imperfect and capable of receiving it not the divine nature" and the real inherence of the relation of union in human nature suffices to make both the propositions 'The human nature is united to the Divine Word' and 'The Divine Word is united to the human nature' true.[52]

(4.1.2) *Nestorianism and Ockham's Theory of Universals.* If Ockham is acquitted of the Nestorian charge on the first count, does his theory of universals not convict him on the second? In my opinion, it does not, and that for two reasons: (a) first because Ockham explicitly repudiates the Nestorian conclusion that there are two persons or supposita in Christ.[53] This is enough to show that had Ockham viewed his theory of universals as incapable of an orthodox formulation he would have denied its application to this case. (b) Second because his elaboration of the doctrine—principally in *Reportatio* III, q.1 and *Quodlibeta* IV, q.7–8—suggests a development of his theory of created substances that has no Nestorian consequences anyway.

A brief look at Ockham's discussion will verify these suggestions. To begin with he maintained that

(T16) in the Incarnation a human nature is assumed by the Divine Word

and

51. *Rep.* III, q.1, (OTh VI, 9).
52. *Ibid.*
53. *Ibid.*, (OTh VI, 39–41).

(T17) the Divine Word is its own suppositum and hence the single person or suppositum of Christ.

Ockham warns that given (T17), (T16) cannot mean that the human nature *becomes* or *is* the person of Christ. For that would be for it to become or be the Divine Word which it can no more do than it can become or be a donkey.[54] Nor should it be understood that in the Incarnation one person or suppositum is formed by adding two natures—one human and one divine—to one set of individuating principles. For this would be as absurd and impossible as adding donkey nature and human nature to a single set of individuating principles would be on a theory that treats particulars as composites of universal or common natures and individuating principles. Rather Ockham says

(T18) the assumed human nature "is sustained by the Word the the way an accident is sustained by its subject" and so long as it is assumed it is not its own suppositum.[55]

While "the union cannot be demonstrated but only held by faith,"[56] it can be explained by appeal to two models: the union of matter and substantial form and the union of substance and accident. Ockham writes,

> in the union of matter with form, matter and form remain distinct entities, as was clear earlier, and this notwithstanding, because of the union of one to the other, matter is denominated from the properties of form, and vice versa; so in the case at hand, the human and divine nature remain as distinct after the union as before and they do not make one *per se* the way matter and form do, but rather one quasi *per accidens* the way substance and accident do.[57]

Thus, just as matter is called animal from the inherence of substantial form, and Socrates white from the inherence of

54. *Rep.* III, q.1, (OTh VI, 9, 34); *Summa logicae* III–1, c.32, (OPh I, 447; *Quodl.* V, q.10, (OTh IX, 519–520).

55. *Rep.* III, q.1, (OTh VI, 9).

56. *Ibid.*, (OTh VI, 10).

57. *Ibid.*

hiteness, so also

(T19) notwithstanding such a distinction between the natures, they nevertheless mutually share their properties through concrete predication,

or example, 'the Son of God is Incarnate, died and suffered' d likewise 'Man created the stars'."[58] According to doctrine, ly one particular human nature has been assumed and it will main assumed forever.[59] Nevertheless, Ockham agrees that is is a contingent fact and maintains that

(T20) one and the same human nature can first not be assumed and then be assumed and vice versa,

God so willed.[60] In fact, (T20) occurs as a premiss in his fense of (T15). Further, Ockham concedes that

(T21) any human nature can be assumed by the Divine Word[61]

d even that

(T22) any created nature *per se* in the genus of substance can be assumed by the divine nature and sustained by it:[62]

t can be true that a stone is sustained by a divine person if it ere assumed, just as human nature is."[63] Again, although the man nature of Jesus has been assumed by the second person the Trinity, God the Son, in such a way that either the whole vine person, or more economically its constitutive property iation is the real basis explaining why the Son is the term of

58. *Ibid.*, (OTh VI, 11).
59. Denzinger, *op. cit.*, 36.
60. *Rep.* III, q.1, (OTh VI, 28).
61. *Ibid.*, (OTh VI, 30–31).
62. *Ibid.*, (OTh VI, 21–22, 33–34).
63. *Ibid.*, (OTh VI, 34).

the relation,[64] nevertheless,

(T23) it is possible for the divine essence—and secondarily all three persons—to assume and sustain a single created nature,[65]

and

(T24) it is possible for a single created nature to be simultaneously assumed primarily by each of the three divine persons by three distinct relations of union.[66]

Ockham confesses further, "I believe that

(T25) God can bring it about that one nature depends on another as on a nature that sustains it;

for example, the soul can be the term of [a relation of] union to a body or a stone, since no contradiction is involved."[67] And later on he writes that

> if it is possible for one creature to sustain another as some say, and I believe it involves no contradiction; nor can it be proved by natural reason that the body of Christ could [not] assume the substance of the bread by union—in which case the sustaining nature will be its suppositum...[68]

apparently entertaining the possibility that the created substance that is Christ's body could sustain another, the substance of the Eucharistic bread.

In endorsing (T16)–(T20), Ockham takes his stand against the Nestorian heresy. It may still be asked, however, whether his posture is compatible with his own theory of universals, which

64. *Ibid.*, (OTh VI, 16–17).
65. *Ibid.*, (OTh VI, 17–21, 38).
66. *Quodl.* IV, q.8, (OTh IX, 341).
67. *Rep.* III, q.1, (OTh VI, 36).
68. *Ibid.* IV, q.8, (OTh VII, 138).

appears to commit him to the view that each created nature in the genus of substance is its own suppositum and hence that abstract and concrete nouns in the category of substance are synonymous?

Facing this challenge, Ockham explains in *Reportatio* III, q.1 that "in cases other than Christ"

> 'man' supposits for Socrates or Plato, neither of which is really distinct from the humanity in him, because the created suppositum adds only a negation to the nature existing in it.[69]

That is, Socrates is a created suppositum, and he is humanity that is not sustained by anything else.[70] "Moreover, the propositions 'Humanity is man' and 'Man is humanity' are true" for such cases.[71] Where the man that is Christ is concerned, however, "'man' supposits for the suppositum of the Son of God that sustains the human nature, and 'humanity' supposits for the sustained human nature."[72] Consequently, 'Humanity is man' and 'Man is humanity' are false about the man that is Christ. Likewise, in the *Summa logicae* I, c.7, Ockham declares that whereas Aristotle and the Commentator would regard 'man' and 'humanity' as completely synonymous,[73] "one should not say so according to the truth of the theologians":[74]

> For the name 'man' truly supposits for the Son of God, and therefore signifies or somehow indicates the Son of God. But the name 'humanity' does not supposit for or in any way signify the Son of God any more than the name 'whiteness' does. For this reason, one should grant the proposition 'The Son of God is a man', but the proposition 'The Son of God is humanity' is false. Thus, since it is not the case that whatever is indicated by one of them is likewise indicated by the other, ['man' and 'humanity'] are not synonymous.[75]

69. (OTh VI, 29–30).
70. *Summa logicae* I, c.7, (OPh I, 26).
71. *Ibid.*, (OPh I, 27).
72. *Ibid.*; cf. *Rep.* III, q.1, (OTh VI, 39–41).
73. (OPh I, 23–24); *Quodl.* V, q.11, (OTh IX, 524).
74. (OPh I, 24–25).
75. (OPh I, 25); *Quodl.* V, q.10, (OTh IX, 519–520).

This difference in truth-value can be accounted for by assigning the term 'man' but not the term 'humanity' a disjunctive nominal definition:

> ...For the name 'humanity' signifies only a nature composed of body and intellectual soul and connotes neither that the nature is sustained by a suppositum—e.g., the divine person—nor that it is not sustained. Therefore, it always supposits for the nature and for this reason can never supposit for the Son of God, because the Son of God could not be that nature. But the name 'man' signifies the nature and gives to understand that either the nature subsists *per se* and is not sustained by another or that it is sustained by another. Thus, the following nominal definition could be given: a man is a nature composed of body and intellectual soul that is sustained by no suppositum or it is a suppositum that sustains such a nature composed of body and intellectual soul that is sustained by no suppositum or it is a suppositium that sustains such a nature composed of body and intellectual soul. For this description is truly asserted about any man, for one part [or the other]. For the proposition 'Socrates is a nature composed of body and intellectual soul that is not sustained by another suppositum' is true, although the proposition 'Socrates is a suppositum that sustains such a nature' is, literally speaking, false. The latter is clearly false, because if Socrates were a suppositum that sustains such a nature, I ask what the name of 'Socrates' supposits for? If for the nature, then the nature sustains such a nature—which is false, since it does not sustain itself. If for something other than the nature, this is impossible, because either for part of the nature or for a substance distinct from that nature or for one composed from the nature and something else—each of which is false of itself.[76]

But the proposition 'The Son of God is a suppositium that sustains such a nature' is true.

Ockham's critics, medieval and modern, have denounced this account as at worst absurd and at best *ad hoc*.[77] Surely, they reason, the feature of being its own suppositum is a feature that is intrinsic and essential to the things that have it: among creatures, particulars in the genus of substance. And

(T26) Particulars in the genus of substance subsist *per se* (are

76. *Summa logicae* I, c.7, (OPh I, 25–26); *Quodl.* V, q.10, (OTh IX, 520).

77. For example, Geach, *op. cit.*, 144, 150.

their own supposita) and cannot exist in or be sustained by anything else

and

(T27) Accidents can exist in substances as in a subject, and cannot exist otherwise than in substances as in a subject,

seem to be the crux of the Aristotelian distinction between substances and accidents. If so, it is impossible for the nature that is assumed by the Divine Word and hence not its own suppositum to be of the same kind as any human nature that is its own suppositum. Being less independent, it cannot have the same worth.[78] Likewise, they find (T20) ridiculous, when combined with Ockham's theory of universals, because together they imply that

(T28) one and the same human nature can first be a suppositum and not be a suppositum, and vice versa,

as Ockham himself admits.[79] But his medieval critics had contended that

> the same nature cannot now be a person [suppositum] and later not be a person [suppositum]—say if it depended on the suppositum of another thing—and yet remain in a genus *per se*.[80]

And one modern commentator, Peter Geach, concludes that Ockham could not really have believed anything so nonsensical as (T28) but endorsed "thinly disguised Nestorian Heresy" after all:

> Ockham thinks, as the Nestorians thought, that what was assumed to

78. *Rep.* III, q.1, (OTh VI, 4).

79. *Summa logicae* III–1, c.32, (OPh I, 447); *Quodl.* IV, q.7, (OTh IX, 329).

80. *Rep.* III, q.1, Q, (Lyons).

> some sort of union with the Word of God was a human creature existing independently of such union. He merely writes '*humanitas*' where an outspoken Nestorian would write '*homo*'; this no more alters the force of his propositions than writing 'the King's Majesty' instead of 'the King'.[81]

By contrast, I read Ockham as neither *ad hoc* nor Nestorian. On the contrary, he judges that philosophy has something to learn from orthodoxy, not only about the human nature of Christ, but about the true nature of created substances generally. In particular he thought it showed (T26) to be false and

(T29) Created particulars in the genus of substance can, by nature, subsist *per se* (i.e., be their own supposita) or can be sustained by another suppositum, created or divine.

true. Ockham's belief that a created substance can by nature be sustained by another is obvious from his insistence that

> the same nature can now be a person [suppositum] and afterwards not be a person [suppositum]—say, if it depends on another suppositum of a different kind—and yet remain *per se* in a genus.[82]

If the human nature that is Socrates were assumed or sustained by another suppositum, the nature would not be essentially "altered" or robbed of its full-fledged membership in the genus of substance thereby. And Ockham's nominal definition of 'humanity' given in the *Summa logicae* and the *Quodlibeta*—viz., that "the name 'humanity' signifies only a nature composed of body and intellectual soul and connotes neither that the nature is sustained by a suppositum, e.g., a divine person, nor that it is not sustained"[83]—implies that human nature is indifferent to each.

Ockham brings this idea into clearer focus in *Quodlibeta* IV,

81. *Op. cit.*, 148.
82. *Rep.* III, q.1, (OTh VI, 28).
83. *Summa logicae* I, c.7, (OPh I, 25); *Quodl.* V, q.10, (OTh IX, 510).

q.7, where he writes that

> something can be in neutral potency with respect to something in two ways: (i) One way, because its nature is *actively* inclined no more to one than to the other. This way the assumed nature and *any other whatever* is in neutral potency with respect to depending and not depending on an extrinsic suppositum, since neither pertains to it actively by its nature. (ii) Another way it can be in neutral potency, because if it is left to its nature, one is not predicated of it more than another. This way the assumed nature is not in neutral potency, because if it is left to its nature, then not depending on an extrinsic suppositum pertains to it through predication. But then it does not follow that its dependence is violent, unless by its own nature it would act as an efficient cause to make itself not depend on an extrinsic suppositum, the way gravity effects downward motion. (OTh IX, 336)

On Ockham's interpretation of Aristotelian physics, the nature of earth is itself an efficient cause of the downward motion of the earth (i.e., it actively determines the earth to move downwards), although this motion can be violently obstructed by the interference of some other cause, created or divine. By contrast, he maintains, a created nature does not actively determine itself to dependence or independence (i.e., none is an efficient cause of its being its own suppositum and thus independent, or of its depending on another, extrinsic suppositum). Where a created nature is sustained by an extrinsic suppositum, something else—presumably the divine will—is the efficient cause of this dependence. Nevertheless, the dependence is not violent in the Aristotelian sense, because no obstruction of the natural causality of the assumed nature will be involved.[84] If, however, no extrinsic efficient cause acts to make it dependent, the nature will subsist *per se* and be its own suppositum.

Consequently, Ockham admits that (T28) makes the property of being its own suppositum a contingent property of any creature. Nor does he see any reason why it should be otherwise, given his definition:

> a suppositum is (i) a complete being, (ii) not sharable by identity, (iii)

84. *Rep.* III, q.1, (OTh VI, 37–38).

> not apt to inhere in anything, and (iv) not sustained by anything,

where

> by the first, viz., by (i) 'complete being', is excluded every part—whether essential or integral—since neither is a complete being. By the second (ii) is excluded the divine essence, which, although it is a complete being, is sharable by identity with a divine person. Therefore, it is not a suppositum, since a suppositum is not sharable by identity. By the third (iii), is excluded every accident, whether it inheres or not. By the fourth (iv) is excluded the nature assumed by the Word, which is sustained by it.[85]

And he observes that there are many cases where a thing first i and then is not a suppositum, or vice versa, by virtue of satisfy ing and then not satisfying condition (i):

> ...the same part of air or of a man first is not a suppositum when it is a part, and afterwards, when it is not a part, is a suppositum. Likewise, numerically the same nature first is a suppositum when it is not an integral part and afterwards, when it is an integral part is not a suppositum. Example: if a part of a man or of air were separated from the whole, first it was a part and consequently not a suppositum, and afterwards it is a suppositum, since it is not a part when it is separated from the whole and exists *per se*. Or if something first is not and later is a part—say, when an animal grows—then the food that earlier was not a part later will be part of the animal, and consequently was a suppositum earlier and not later.[86]

Analogously, the same created nature may first fail and then no fail to satisfy condition (iv).

On my reading, Ockham's transformation of the notion o created substance in the light of the doctrine of the Incarnatio parallels the medieval alteration of the Aristotelian conceptio of accident in the face of the doctrine of Transubstantiation (se chapter 6 above). For whereas Aristotle had allegedly main tained

85. *Quodl.* IV, q.7, (OTh IX, 328).
86. *Ibid.*, (OTh IX, 329).

(T27) Accidents can exist in substances as in a subject, and cannot exist otherwise than in substances,

the favored account of the physics of the Eucharist held that when the priest said the words of consecration, the accidents of the bread continued to exist and be present without inhering in any substance. Philosophers who believed quantities to be things really distinct from substances and qualities, moved to reduce their deviation from (T27) by maintaining that real accidents other than quantity inhere immediately in quantity, while quantity inheres immediately in substance. During transubstantiation, quantity remains without inhering in anything, but the other accidents continue to inhere in quantity. Denying that quantity is anything really distinct from substance and quality, Ockham awards all real accidents the capability by divine power, of existing without inhering in any subject, although apart from divine intervention, they never do exist that way. (Ockham does not explain whether the potency in accidents for inhering in a substance is active the way earth's potency for downward motion is, or passive the way created substance's potency for being sustained is.)

If so, it may look as if Ockham has so adjusted the Aristotelian distinction between substance and accident as to obliterate it. For created substances and created qualities will both be able to exist on their own without inhering in anything else, at least by divine power. And if Ockham understood (T25) to be perfectly general, allowing that God can make an accident to assume or sustain a substance nature, just as much as He can make one substance nature to sustain another, then both substances and accidents would be seen to have the capability of being the ultimate subjects of other, sustained things. And substance natures share with accidents the capability of being sustained by another suppositum. The only difference would be that in the normal course of things, apart from divine intervention, natures in the genus of substance are their own supposita and subsist *per se* and are the subjects of accidents, while accidents do not exist apart from inhering in some substance or other and are not themselves subjects of inherence. If Aristotle errs by making the

normal the necessary and essential, does not Ockham suggest that substantial and accidental natures differ with respect to the normal and not with respect to anything essential at all?

Even if Ockham had located the principal differences between substance and accident in what is normal but not essential to them, such a move would have had wide precedent in medieval usage of Aristotle. For example, Aristotle had thought that coming into being and ceasing to exist were unintelligible without some substratum that persists throughout the change. But Christians believed that God created out of nothing and had the power to annihilate any and everything He had made. Accordingly, contrary to what Aristotle would ever have admitted, plants and animals are, by their very natures, the kind of thing that can come into being out of nothing, apart from any preexisting materials, and the kind of thing that can be reduced to nothing, without any materials surviving. They conceded that Aristotle was right about what was normal: for where comings to be and ceasings are initiated by created causes, there is a substratum that persists through the change. Neither Ockham nor other orthodox medievals regarded Aristotle as an infallible authority.

In any event, I do not think that Ockham intended to conflate the notions of substance and accident that much. He nowhere applies (T25) to the case of accidents sustaining substance. Rather his example in *Reportatio* III, q.1, (OTh VI, 36) is one of an incomplete being (a soul) depending on a complete being (a stone) in the category of substance. And his allusion in *Reportatio* III, q.1, (OTh VI, 28) to one nature's depending "on another suppositum of a different kind" opens the way for Socrates to assume or sustain a donkey nature, and that in *Reportatio* IV, q.8, (OTh VII, 138) for the substance of Christ's body to assume the substance of the bread. Ockham's definition of 'suppositum' in *Quodlibeta* IV, q.7, however, explicitly denies—condition (iii)—accidents the potency for sustaining other natures. Although his original models for the sustaining or assuming relation were the union of matter and form, substance and accident, the fact that he regarded (iii) and (iv) as distinct conditions shows that he intended somehow to contrast the

relation of being sustained with that of inherence. Clearly, it would not be easy for him to explain the difference between them, given his concession that relations of union and inherence are likewise really distinct relative things (see chapter 7 above). Perhaps he thought it was primitive. Nevertheless, his intention was plainly to deny that substances share with accidents the capability of inhering and so to uphold the most basic Aristotelian characterization of substance.[87] Besides,there are other differences between substances and real accidents (i.e., qualities) that are in no way compromised by Ockham's views about the Incarnation: viz., that qualities come in degrees, while substances do not;[88] and qualities come in contraries in the strict sense, whereas particular substances do not.[89]

I have been suggesting that Ockham does not treat the assumption of human nature by the Divine Word as an unintelligible exception to an otherwise general theory of universals, but as an instance fully allowed for by a general theory of created substance that replaces (T26) with (T29). Nevertheless, it can be doubted whether Ockham consistently endorsed such a general theory. After all, in his logical works, he spends pages elaborating the view he attributes to Aristotle that concrete and abstract terms in the genus of substance such as 'man' and 'humanity', 'horse' and 'equinity', 'animal' and 'animality' are synonymous.[90] When he turns to examine what must be said "according to the truth of the theologians," he focuses exclusively on the terms 'man' and 'humanity'[91] and does not extend their conclusion to terms for created substances generally.

87. *Summa logicae* I, c.43, (OPh I, 123); *Expos. Praedicam.*, c.9, sec.1, (OPh II, 182–83).

88. *Summa logicae* I, c.43, (OPh I, 125); *Expos. Praedicam.*, c.9, sec.10, (OPh II, 196); *Summa logicae* I, c.55, (OPh I, 182); *Expos. Praedicam.*, c.15, sec.2, (OPh II, 290).

89. *Summa logicae* I, c.45, (OPh I, 125); *Expos. Praedicam.*, c.9, sec.9, (OPh II, 193); *Summa logicae* I, c.55, (OPh I, 182); *Expos. Praedicam.*, c.15, sec.1, (OPh II, 288).

90. *Summa logicae* I, c.6–7; cf. *Quodl.* V, q.11, (OTh IX, 524).

91. *Summa logicae* I, c.7, (OPh I, 25–27); *Quodl.* V, q.10, (OTh IX, 519–520).

And even after having made this exception, he continues to use 'man' as a paradigm absolute term. Is he not thus reneging on his commitment to (T29) and reverting to the strategy of treating the theological case as an extra-theoretical, unintelligible exception?

I do not think that he is. The *Summa logicae* was written between the *Reportatio* and the *Quodlibeta*, and although it is not a commentary, it is in many ways a very Aristotelian work. As noted above (see chapter 11), Book III–1, –2 takes the place in Ockham's corpus of a commentary on the *Analytics* and represents an expansion and development of it; III–3, –4, a reworking of the *Topics* and *Sophistical Refutations*. Ockham's focus is on logic, but when he addresses himself to metaphysical questions, the Philosopher's point of view occupies center stage. And while he usually attributes to Aristotle positions that he himself endorses elsewhere, in this work he de-emphasizes his own stance in such matters. In fact, near the end of the *Summa logicae*, Ockham acknowledges that this has been true of his treatment of absolute, abstract, and concrete terms in the genus substance:

> In connection with this and other preceding examples, notice that although, according to the use of the philosophers, the term 'man' is a merely absolute name that directly signifies one significatum no more than another, nevertheless, according to the use of the theologians, the name 'man' connotes or consignifies at least partially the divine suppositum, which – even if it were not a man – could be a man. Therefore, when I have given many examples with the name 'man', I have been speaking according to the use of the philosophers.[92]

Nor should too much weight be put on the fact that the terms 'man' and 'humanity' are the exclusive focus in *Summa logicae* I, c.7. After all, *Quodlibeta* V, q.10–11 share that concentration, but his perspective in *Quodlibeta* IV, q.7 widens again to created natures generally.

(4.2) *Ockham's Philosophy and the Doctrine of the Trinity.* In the course of defining the doctrine of the Trinity, the Fourth

92. III–4, c.10, (OPh I, 811).

Lateran Council stipulated that

(T30) one divine essence is one and another persons,

so that the divine essence is numerically one thing (*res*) and not "really varied and multiplied"[93] in the three divine persons. Ockham's nominalism/conceptulism seems unable to accommodate this doctrine. At least some of his opponents had held that universal natures are mind-independent things (*res*) that exist in, as metaphysical constituents of, numerically distinct particulars simultaneously without being multiplied in any way, so that one and the same mind-independent thing (*res*) is the human nature of Socrates and of Plato simultaneously (see chapter 2 above). By contrast, for Ockham, every real human nature is particular; Socrates *is* one particular human nature and Plato *is* another, and everything that is essential to Socrates is, in and of itself, numerically distinct from anything and everything essential to Plato. Nevertheless, Socrates' humanity and Plato's humanity are maximally similar and hence co-specific and naturally signified by the common concept 'man' (see chapters 3–4 above). Assuming that God the Father, God the Son, and God the Holy Spirit, are three, really distinct supposita the way Socrates, Plato and Aristotle are, Ockham's theory would imply, contrary to (T30), that the Father's divinity was numerically distinct from that of the Son and Holy Spirit, and that all the divine persons have in common is general concepts such as 'divinity'.

Alternatively, a nominalist/conceptualist about universals could say that there is one absolutely simple divine essence and one and only one God, who is Father, Son, and Holy Spirit, in that

(T31) 'Father', 'Son', and 'Holy Spirit' are three names that apply to the divine essence.

93. Ockham uses this expression in describing several views that universals or common natures are real, mind-independent things; cf. *Ord.* I, d.2, q.4, (OTh II, 101); q.5, (OTh II, 153–54); see Part One, chapter 2 above.

Unable to see how three distinct things (*res*) could be or be in one absolutely simple thing (see chapter 21 above), Sabellians or modalists had denied that

(T32) 'Father', 'Son', and 'Holy' Spirit' signify three distinct things (*res*) in the Godhead

and held that

(T33) 'Father', 'Son', and 'Holy Spirit' are three names or concepts that apply to God solely in virtue of his actions in relation to creatures.[94]

The denial of (T32) together with (T33) implies, however, that God would not have been a Trinity had He decided not to create anything—which was condemned as heretical in 381 A.D.[95] And Augustine declares in *De trinitate* that we must say that God is three somewhats, not in order to say something positive, but in order to avoid the Sabellian heresy.[96] Abelard rejects (T32) as incompatible with divine simplicity but tries to steer an orthodox course by drawing an analogy between the divine attributes and the divine persons and their attributes. He explained that just as God is wise, powerful, and loving eternally and necessarily and independently of His creative activities, even though 'wise', 'powerful', and 'loving' do not signify three distinct things in God, so

(T34) God is Father, Son, and Holy Spirit eternally and necessarily, and hence independently of any of his creative activities,

even though (T32) is false.[97] This solution was condemned at

94. J. N. D. Kelly, *op. cit.*, chap.5, 119–123.

95. Denzinger, *op. cit.*, 32.

96. V, chp.9, sec.10, in *Nicene & Post-Nicene Fathers of the Christian Church* III, 92.

97. Peter Abelard, *Theologia christiana*, Book III, sec.164–187, in CC, Continuatio Mediaevalis, XII, 255–265.

the instigation of St. Bernard of Clairveaux at the Council of Sens in 1140. And by the time Scotus wrote, the Fourth Lateran Council's declaration in (T30) was taken to imply further that

(T35) three things (*res*) are one thing (*res*).[98]

Further, there was substantial agreement under the authority of Augustine that the three things that constituted the divine persons were relative things. For Augustine had contended that they could not be essential properties of the divine essence such as eternity, wisdom and love; for these belong to each and every divine person equally and none more to one divine person than to another. Nor could they be accidents, since the absolutely simple divine essence is not the subject of really inherent accidents. Instead, he maintained, they are constituted by relations—paternity, filiation, and spiration—that pertain to the Godhead necessarily and eternally, not accidentally or contingently.[99] Yet Ockham's philosophical opinion about relative things will exclude him from this consensus, if it banishes relative things from every reasonable ontology and views the universe as inhabited by absolute things alone.

Thus, both Ockham's theory of universals and his views about relations seem inhospitable to orthodoxy regarding the doctrine of the Trinity as well.

(4.2.1) *Universals and the Trinity*. Ockham admits that his (and hence the only intelligible) theory of universals cannot adequately formulate the doctrine of the Trinity, and he refuses to apply it there. Responding to the suggestion "that the persons are distinct in and of themselves" the way (he claims) Socrates and Plato are distinct in and of themselves, Ockham rejects the analogy.[100] For

98. *Lectura* I, d.5, q.u, n.16, (Vaticana XVI, 416); d.23, q.u, n.23–24, (Vaticana XVII, 309); cf. *Ord.* I, d.5, p.1, q.u, n.8–9, (Vaticana IV, 13–14); n.26, (Vaticana IV, 24–25).

99. *De trinitate*, V, chap.1–7, 87–91.

100. *Ord.* I, d.26, q.1, (OTh IV, 143).

> when things are primarily distinct in and of themselves, there is nothing in one that is not distinct from another, just as there is nothing in Socrates that is not distinct from Plato. But when something is altogether the same in each, then neither of them is distinguished from the other by what is altogether the same in each. Therefore, the Father is not distinct from the Son by the essence but by Paternity. Therefore, He is not primarily distinct from the Son in and of Himself.[101]

Socrates *is* his humanity, which is, in and of itself, distinct from Plato's. But in this case that is "unique and beyond any understanding"[102] the divine essence of the Father is numerically one and the same as that of the Son and Holy Spirit, respectively. The divine essence is "singular of itself but sharable" among the three divine persons the way Burleigh had claimed that all universals are (see chapter 2 above). What distinguishes them into numerically distinct persons is the really distinct constitutive principles Paternity, Filiation, and Passive Spiration, each of which is—as Scotus claimed of all individuating principles—"this of itself."[103]

Nevertheless, Ockham is not being so *ad hoc* as to hold that while his theory of universals applies to creatures, his opponents' fit the Godhead without any modification. In this regard, he thinks, none of the theories fares better than the others. For Burleigh's theory implies that the nature is one thing (*res*) and what individuates it is a really distinct thing or things (*res*), so that wherever many share a nature, each suppositum is metaphysically composite; yet God and the divine persons are altogether simple. On the other hand, theories which say that the individuating principles are less than really distinct from the particular supposita, such as Scotus's and Aquinas's, hold that the nature is numerically multiplied in them. And all theories of universals considered by Ockham hold that if *F*-ness is instantiated three times, there are three *F*'s, whereas in the Godhead there are three divine persons but not three Gods.

Having admitted that the divine essence is one thing (*res*) and

101. *Ibid.*, (OTh IV, 145).
102. *Ibid.*, d.2, q.6, (OTh II, 175).
103. *Ibid.*, d.26, q.1, (OTh IV, 162).

that the constitutive principles are three, really distinct things (*res*), Ockham sees no other way of preserving the divine simplicity than to say that (T35) each of these things that is constitutive of a divine person is really the same as numerically one divine essence. Borrowing Scotus's term but not his meaning (see chapter 2 above), Ockham agrees to say that

> there is some sort of nonidentity between the divine nature and the divine suppositum. It can be said that in a good sense they are distinct formally, although they are not really distinct.[104]

And he explains that

> ...to be distinct formally—as I hold formal distinction, and this is the nominal definition—is evidently only for one of them to be some absolute or relative thing (*res*), and the other not to be that thing. For example, the essence and the Father are formally distinct, because they are one thing, since the essence is the Father. When it is possible to find this, a formal distinction should be posited; and when it is not possible it should not be posited. For I call nothing else being formally distinct.[105]

That is, where '*a*', '*b*', and '*c*' stand for real things (*res*),

(T36) '*a* and *b* are distinct formally' = Nom. def. '*a* is identical with *c* and *b* is not identical with *c* and *a* is identical with *b*'.

Given the Symmetry and Transitivity of Real Identity, the right hand of (T36) can be reduced to a contradiction. Or he says that

> ...there can be a formal distinction and such contradictories can be truly asserted only where there are really distinct things (*res*)...[106]

That is,

(T37) *a* and *b* are distinct formally, only if *a* is not identical

104. *Ibid.*, d.2, q.11, (OTh II, 364); d.30, q.4, (OTh IV, 366).
105. *Ibid.*, d.2, q.1, (OTh II, 19).
106. *Ibid.*, q.11, (OTh II, 374).

with *b*, and *a* is identical with *c*, and *b* is identical with *c*,

which can likewise be reduced to a contradiction by the Symmetry and Transitivity of Identity. Again, Ockham explains that there is a formal distinction only where "one simple thing (*res*) is many really distinct things and each of them."[107] That is,

(T38) *a* and *b* are distinct formally only if *a* is not identical with *b*, and *a* is identical with *c*, and *c* is identical with *b*,

which is reduced to a contradiction by employing the Transitivity of Identity. Further, he writes,

> ...In general, for 'formally distinct' to be truly asserted of some things is only for something to be truly affirmed of one and truly denied of another, while nevertheless one is truly affirmed of the other, without any variation or equivocation and without each conjunct being true for diverse things...[108]

That is,

(T39) *a* and *b* are formally distinct, if and only if *a* is *F* and *b* is not *F* and *a* is identical with *b*,

the right side of which is reduced to a contradiction by applying the Indiscernibility of Identicals. Ockham is thus saying that *a* and *b* are distinct formally where and only where there is an exception to these fundamental laws of thought. Accordingly, he cautions that "great difficulties arise whenever it—viz., the formal distinction—is assumed" and comments that it is no "easier to hold than to hold a Trinity of persons with a unity of essence."[109] Thus, Ockham embraces orthodoxy and endorses (T32), (T34), and (T35), but he takes himself merely to have

107. *Ibid.*, q.1, (OTh II, 19).
108. *Summa logicae* II, c.2, (OPh I, 254).
109. *Ord.* I, d.2, q.1, (OTh II, 17–18).

labelled a mystery and in no way to explain it!

(4.2.2) *Relations and the Trinity.* Having settled on

(T32) 'Father', 'Son', and 'Holy Spirit' signify three distinct things (*res*) in the Godhead,

some theologians continued to debate—Augustine's authority notwithstanding—whether the things in question were absolute or relative. Ockham does think that the balance of reason is against

(T40) the three really distinct things that constitute the three divine persons are really distinct relative things.

First, because he finds the notion of relative things really distinct from absolute things only marginally intelligible. Second, because (T40) runs counter to many theorems about relations admitted by those who believe in really distinct relative things. For example,

(T41) a real relation presupposes the existence of its relata

and hence cannot even be part of what constitutes them.[110] Again,

(T42) a suppositum is somehow prior to its action,

but the Father would not be prior to His begetting if He were constituted by it.[111] Likewise,

(T43) opposite relations are either alike sharable or alike unsharable.

But if Passive Spiration constitutes the Holy Spirit and hence is unsharable, its opposite Active Spiration would be unsharable too—which is contrary to the Western credal affirmation that

110. *Ibid.*, d.26, q.1, (OTh IV, 147–48).
111. *Ibid.*, (OTh IV, 148–49).

the Holy Spirit proceeds from (is actively spirated by) the Father and the Son.[112] Further, the divine persons are supposed to be subsistent, just as Socrates is subsistent. Hence, just as substance is naturally prior to accident and can in no way be constituted by relations or any other accidents, so in general

(T44) neither a relation nor any accident can constitute any subsistent being.[113]

Easier to hold, Ockham thinks,[114] is the opinion that

(T45) the three really distinct things that constitute the three divine persons are really distinct absolute things,

where by (T35), each is really the same as the divine essence but formally distinct from it. The persons or supposita thus constituted, they are related in such a way that

(T46) the Father begets the Son, the Son is begotten by the Father, and the Holy Spirit proceeds from or is spirated by the Father and the Son,

yet

(T47) there are no relative things (*res*) in God,

any more than there are in two similar white things or between God and created stone. Rather, just as Ockham has argued that

> given this whiteness and another whiteness, every other thing imaginable left aside, these two whitenesses are similar and so they are not similar through a relation in any way distinct from them; likewise, given God and this absolute thing that is a stone, leaving everything else aside, the stone would still be really dependent on God and God would really be the cause of the stone; so this opinion would posit that

112. *Ibid.*, (OTh IV, 149).
113. *Ibid.*, (OTh IV, 150–51).
114. *Ibid.*, (OTh IV, 153).

by the very fact that there are three such absolute persons there, one of these persons would be from one and one from two and one would be Father, another Son, and another Holy Spirit apart from anything else imaginable.[115]

Nor does Ockham see any merit in the opposing arguments that relative things would be philosophically and/or theologically preferable. To the suggestion that it is easier to suppose that three really distinct relative things are really the same as one absolute thing than that three absolute things are, Ockham denies it—either construal of (T35) is equally contrary to reason.[116] Some argued, on the contrary, that when two things of the same genus combine to make something one *per se*, the one thing is always in potentiality with respect to the other and the resultant thing is always a composite, whereas neither need be so where an absolute and a relative thing are concerned. Ockham counters that sameness or difference of genera has nothing to do with it. Substance is in potentiality with respect to its accident as they combine to form a composite even though they are of different genera. Ockham concludes that "therefore, the essence would no more be potential with respect to an absolute property than a relative property."[117] Further, "there is no more reason why an absolute should form a composite with an absolute thing than a relation with an absolute thing."[118] Some argued that the necessary coexistence of the three divine persons could be better explained if their constitutive properties were relative instead of absolute, because

(T48) it is more impossible for a relation to exist without its correlative than for one absolute to exist without another.

But Ockham contends that whatever may be true in a wide range of cases among creatures,

115. *Ibid.*, (OTh IV, 152); cf. d.30, q.4, (OTh IV, 370–71).
116. *Ibid.*, d.26, q.1, (OTh IV, 153, 155).
117. *Ibid.*, (OTh IV, 156).
118. *Ibid.*, (OTh IV, 155).

> it is no more impossible for a relative to exist without its correlative than it is impossible for one absolute to exist without another absolute when a single maximally simple thing is those two absolutes.[119]

Thus, in Ockham's mind, reason favors (T45) over (T40).

Nevertheless, Ockham himself does not follow the dictates of natural reason on this point. Although he thinks that (T45) and (T47) "could seem defensible to someone," he writes that

> because the authorities of the Saints seem explicitly to posit relations in the Godhead—not merely that some relative concepts are truly predicated about the divine persons the way we say that Socrates is similar or that Socrates is father or son, but that there is there genuine real paternity and filiation, and that they are two simple things, one of which is not the other—therefore I hold with them that the divine persons are constituted and distinguished by relations of origin.[120]

"Because of the authorities of the Saints,"[121] Ockham endorses (T40) instead. Considering the suggestion that the two theses be combined in

(T49) the divine persons are constituted primarily by absolute things and secondarily by relative things,

Ockham responds that

> it is futile to do with more what can be done with fewer, nor should many miracles that seem contrary to natural reason be posited without the authority of Scripture or the Saints.[122]

But Ockham thinks divine simplicity can be rendered compatible with (T32) three really distinct things in the Godhead, only by allowing that fundamental laws of thought such as the Transitivity and Symmetry of Identity and the Indiscernibility of Identicals are violated in this case. Once one has agreed to say with the authorities of the Saints (T40) that there are three really

119. *Ibid.*, (OTh IV, 156).
120. *Ibid.*, (OTh IV, 156–57).
121. *Ibid.*, (OTh IV, 153).
122. *Ibid.*, (OTh IV, 157).

distinct relative things, one will merely multiply such transgressions if one adds that there are three really distinct absolute things as well. Accordingly, Ockham reasons,

> to posit such absolute properties seems contrary to natural reason nor is it explicitly affirmed in Scriptures or the sayings of the Saints. Therefore, it is futile to posit them.[123]

On the other hand, if (T40) is admitted, it follows that—contrary to all rational expectation—the above mentioned relation theorems (T41)–(T44) admit of exceptions as well. And Ockham willingly pays this further price to join the mainstream of Saints and theologians.[124]

## 5. CONCLUSION: A CONFLICT OF THEOLOGICAL METHOD

If Ockham cannot be convicted of utter scepticism in natural theology and heresy regarding the doctrines of the Incarnation and the Trinity, then is he not at least guilty of bad theological method? One might argue as follows that he is:

1. Fully generalized versions of some of Ockham's metaphysical and logical theories would lead to heretical conclusions.

2. All heretical propositions are false.

3. Therefore, the fully generalized versions of those theories of Ockham's are false.

But

4. The true metaphysical and logical theories are fully general.

123. *Ibid.*
124. *Ibid.*, (OTh IV, 159, 161, 165, 169).

5. A theory-maker ought to seek the true theory.

6. Therefore, those metaphysical and logical theories of Ockham's ought to be rejected. (3, 4, and 5)

Ockham has conceded 1 where his theory of universals is concerned and admitted that his theory of relations would, if fully generalized, run counter to the authorities of the Saints. Given 4 and 5, Ockham should simply have scrapped this theory of relations and adopted the view of his contemporaries that in general relations are things really distinct from absolute things; likewise, he should have admitted after all that real universal natures exist in, as metaphysical constituents of many supposita at once. And if (T35) presents counterexamples to accepted logical rules or apparently valid argument schema, Ockham should abandon them and search for formulae under which all cases can be subsumed.[125]

Ockham's method is different. His fullest statment of the famous Razor—"No plurality should be assumed unless it can be proved by reason, or by experience, or by some infallible authority"[126]—mentions three types of considerations relevant to evaluating theoretical claims: viz., the deliverances of reason, experience, and infallible authorities, which Ockham takes to be the Bible and certain sayings of the Saints and the determinations of the Church.[127] And Ockham acknowledges that the last may tell in a different direction from the first two. For authority sometimes makes claims that cannot be proved from experience—e.g., that the Body of Christ is present under the accidents of the bread in the Eucharist, although we cannot see it there; sometimes that are contrary to experience—e.g., assertions about miracles such as the survival unsinged of the three young men in the fiery furnace. Likewise, authority sometimes implies theses that cannot be proved by natural reason—e.g.,

125. See chapter 12 above; see also Geach, *op. cit.*, 143, 145–46, 152.

126. *Treatise on Quantity* II, c.28, (Birch ed., 318); *Ord.* I, d.30, q.1, (OTh IV, 290).

127. Cf. *Treatise on Quantity* I, q.1, (Birch ed., 158–160).

that singular future contingent propositions have truth-value (see chapter 27 below); sometimes conclusions that are contrary to reason—e.g., that three things are one thing, or that there are relative things really distinct from absolute things. Of orthodox intent, Ockham always allows the claims of reason and experience to be defeated by contrary pronouncements of the Church, which should lead "every thought captive."[128] But Ockham does not feel obliged to take the further step of embracing the fully general theory of which such ecclesiastical determinations are instances. Although he prizes generality as a desirable feature in theories, he is more committed to the maxim that

7. A theory-maker should not multiply miracles—i.e., theses contrary to reason and experience—beyond necessity.

Church pronouncements usually restrict themselves to the narrowest possible subject matter. They do not stipulate, for example, that whenever things are related, there is a relative thing or things really distinct from the relata that relates them. To admit the latter is for Ockham, to take a step outside the bounds of reason. To grant the fully general thesis would be to multiply miracles without any necessity. Ockham's method is thus to subordinate reason and experience to Church authority, while keeping violations of reason and experience to a minimum.

At this point, Ockham's critics charge that his method is tantamount to theologism. For in allowing the philosopher to be informed by theology—e.g., regarding the truth-value of future contingent propositions or the nature of created substance—and admitting that Church authority and our natural faculties sometimes lead us in opposite directions, he compromises the autonomy of philosophy. After reason and experience have reached their conclusion, he must refer to Ecclesiastical pronouncements to see whether and how their results must be qualified or reversed. Further, they charge, Ockham's philosophical mistakes led him to this deplorable methodology.

128. *Ord.* I, d.2, q.1, (OTh II, 17–18).

Had he the insight to see that Aquinas's positions, which harmonize faith and reason, are correct, or the humility to learn from him, Ockham would have strayed less far, both substantively and methodologically.

In my opinion, there is a certain perversity in this objection. While ostensibly blaming Ockham for allowing his theological commitments to restrict his philosophical conclusions, it chides him for not regarding disharmony between a philosophical theory and Christian doctrine as a decisive indication of philosophical wrongheadedness.

The question is how a theologian should respond to a philosophical theory that accomodates doctrinal claims such as (T32), (T15), and (T40), when after careful and honest assessment he finds it to violate the canons of reason and experience. He can accept the theory while treating the doctrinal theses as exceptions—which Ockham does. Or he can conclude that he himself is incapable of evaluating the general theory even though he finds it contradictory and/or unthinkable. In preferring the former strategy to the latter, Ockham is expressing a certain confidence in his own ability to assess philosophical theories. But if this is arrogant, I would ask which of us is in a position to cast the first stone?

Once again, Ockham's procedure can be put in a more favorable light. He thinks that given who we are, we cannot but employ the laws of thought and various inductive principles as reliable guides. As Augustine taught, reason distinguishes us from the beasts, and God intends us to use it to understand the created world. Nevertheless, given who God is, we shall never be able to grasp Him fully thereby. When all is said and done, the Christian philosopher must join the rest of the Church in thanking God for grace to acknowledge and worship the mystery.

# 23

# Is God a Knower?

Is God a knower? If He is, what does He know? Christian doctrine answers "yes" to the first and "everything knowable" to the second of these questions. While such responses might seem obvious and uncontroversial today, they did not appear so to medieval philosophers when they compared them with the traditions of Greek philosophy. After all, the top of Plato's ontological hierarchy, the Form of the Good, was not supposed to be a knower. Indeed, it was said to be "beyond being."[1] And Plotinus, developing this idea, maintained that the One, as absolutely simple, is neither a being nor a knower.[2] Aristotle had claimed that the unmoved mover, as the most excellent of beings, is a knower, but he had suggested that it would be an imperfection in the highest being if it turned its thoughts to anything but itself.[3] Medieval philosophers thus felt obliged to justify Christian doctrine at this point and to defend it against the counter-arguments of the philosophers. Predictably, they were not all of one mind about how to do this, and their disagreements often centered on basic issues in metaphysics and epistemology. A selection of these controversies will form the subject matter of the present chapter, as well as that of chapters 24, 26, and 27 below.

The scholastic habit of distinguishing multiple senses of the term 'knowledge' (*scientia*)[4] made the questions 'Is God

1. *Republic*, Book VI, 508.
2. *Enneads*, V.4.1 and III.8.9.
3. *Metaphysics* XII, 1074b26–27.
4. Ockham, Prologue to *Ord.* I, q.2, a.2, (OTh I, 87–88); Prologue to *Expos. Physicorum*, Boehner ed., in *Ockham: Philosophical Writings*, 3–6; and *Summa logicae* III–2, c.1, (OPh I, 506). The objections raised at the outset of *Ordinatio* I, d.35, q.1, (OTh IV, 424), as well as Aquinas's *Summa theologiae* I, q.14, a.1, obj.1 and 2, indicate that this was a common practice.

a knower (*cognoscens*)?' and, more traditionally, 'Is there knowledge (*scientia*) in God?'[5] highly ambiguous. Following Aristotle, medieval philosophers used 'knowledge' in the strict sense for demonstrative knowledge. One is in a position to acquire such knowledge, only if it is possible that one should believe the premisses and doubt the conclusion of a demonstration, and if it is possible that one's belief in the premisses should cause one to believe the conclusion (see Part Two, chapter 12 above). Ockham concedes an argument that

> ...no knowledge that is, or even can be, the effect of a demonstration is in God. Therefore, that knowledge that is in God and knowledge that is or even can be the effect of a demonstration are of different definitions, although some concept univocally applies to both...[6]

Aquinas agrees with this judgment on the ground that since God is the first cause, nothing in God is an effect.[7] Again, 'knowledge' was sometimes used to signify a mental disposition and hence a mental quality. There is a double reason why God cannot have knowledge of this sort. First, because the act by which one exercises a disposition was thought to be nobler than the disposition itself. Since God is as noble as possible, if He knows anything, He immutably actually knows it.[8] Second, because qualities are accidents and there are no accidents inhering in God.[9] 'Knowledge' can also be taken "generally for any cognition."[10] And it is when 'knowledge' is understood in this way that the questions, 'Is God a knower?' and 'Is there

5. This is the form of the question Ockham actually raises in *Ordinatio* I, d.35, q.1, as well as the one Aquinas poses in *Summa theologiae* I, q.14, a.1. As indicated below, Ockham thinks this way of stating the question reflects an imprecise use of language, which suggests that this formulation was a traditional one rather than Ockham's own invention.

6. *Ord.* I, d.35, q.1, (OTh IV, 432), objection raised at (OTh IV, 424).

7. *In I Sent.*, d.35, q.1, a.1, obj.1 and ad 1; *Summa theologiae* I, q.14, a.1, obj.2, ad 2 and a.7.

8. *Ord.* I, d.35, q.1, obj.2, (OTh IV, 424); q.1, ad 2, (OTh IV, 433).

9. *Ibid.*, q.1, (OTh IV, 432–33); cf. Aquinas, *Summa theologiae* I, q.14, a.1, obj.1 and ad 1.

10. *Ord.* I, d.35, q.1, (OTh IV, 427).

knowledge in God?' command affirmative answers. Indeed, since God is not a knower by having accidents inhering in Him, Ockham points out that the latter question really involves an imprecise use of language.

> ...Insofar as the distinct and most proper way of speaking is concerned, one should say that knowledge *is* God or the divine essence rather than that it is *in* God or *in* the divine essence...[11]

Ockham's position is that God is a knower, and that His knowledge is in every way identical with His essence.[12]

Knowledge, taken generally for any cognition, includes both non-complex acts of apprehension or concepts of things (see Part Three, chapter 13 above), as well as apprehension of and assent to true propositions. To begin with, our discussion will focus on whether God has concepts of anything, what He has concepts of (in the present chapter), and how he has them (in chapter 24). Later, we shall consider arguments about what propositions God knows (chapters 26–27). There are two reasons for this procedure. (i) Some medieval philosophers seem to have thought, as Plato did, that by being aware of or conceiving of certain things—say Platonic Ideas or essences—God could know what we know by propositions. (ii) Ockham, on the other hand, who seems unsympathetic to the latter viewpoint, maintains that concepts are the terms of mental propositions. Hence it is impossible to formulate and assent to a mental proposition about a thing unless one has some concept of it. Either way, in determining what God knows, we must first investigate what concepts He has. The Christian position is that God is both conceptually omniscient, in the sense that He has distinct concepts of Himself and everything else, actual or possible, and factually omniscient in the sense that He has certain and infallible knowledge of all true propositions.

The methods used by medieval philosophers in trying to establish that God is a knower, and indeed conceptually omni-

11. *Ibid.*, (OTh IV, 432).
12. *Ibid.*, (OTh IV, 428–431).

scient, varied with their strategies for proving the existence of God. We saw in chapter 22 that Anselm, understanding God to be a being a greater than which cannot be conceived of, uses his ontological arguments to prove that God exists and exists necessarily.[13] He then concludes in chapter 4 that God is "whatever it is better to be than not to be." Relying on the value judgments that it is better to be a knower than a non-knower, and that it is better to be omniscient than non-omniscient, he could easily draw the conclusion that God is conceptually omniscient.[14] Aquinas, Scotus, and Ockham all prefer to argue that God exists as the first cause of everything other than Himself. Thus, in arguing that God is a knower, Aquinas seizes on a property that God must have if He is the first cause—viz., His immateriality. Ockham finds this argument highly unsatisfactory, and I shall examine it together with Ockham's complaints against it in section 1 below. Turning to the question of the extent of God's knowledge, I shall examine in section 2 a battery of arguments that God does not conceive of anything other than Himself distinctly, together with Aquinas's and Ockham's refutations of them. While Aquinas (focussing on God's role as the first cause of the existence of everything other than Himself) and Scotus (on His role in ordering the activity of natural agents to an end) were confident of proving the opposite thesis, Ockham finds that their arguments, too, lack demonstrative force. He concludes that the best we can offer is a "defensible, probable" argument that God understands something other than Himself. This discussion will be the center of attention in section 3 of this chapter.

## 1. IS GOD A KNOWER?

Aquinas and Ockham are agreed that God is a knower. What

13. *Proslogion*, c.2–3.

14. Anselm does not explicitly draw this conclusion in the *Proslogion*. In his earlier work, the *Monologium*, however, he explicitly maintains that it is better to be wise than not to be wise (c.15) and indicates that the wisdom of the Supreme Nature includes the eternal paradigms of all creatures (c.9). See chapter 24 below.

is more, Aquinas was confident that he could prove it. For he thought there was a property, the having of which was the reason for or cause of something's being a knower rather than a non-knower. Apparently, a property *F* is the reason for or the cause of something's having a property *G*, only if having *F* is a logically sufficient condition of something's having *G*.[15] Although every property is a logically sufficient condition of itself, no property explains or causes itself. Hence, in the above formula, *F* must be a different property from *G*. Presumably, *F* cannot be a disjunctive property—such as being-either-a-knower-or-a-round-square—or a negative conjuctive property equivalent to a disjunctive property (such as being-not-both-a-non-knower-and-a-non-round-square) either. Aquinas's strategy is to identify this property and then conclude that since God has it, He is a knower. He argues as follows:

> ...[1] knowers differ from non-knowers in this: that a non-knower has only its own form, but a knower is apt to have the form of another thing as well, since the species of the thing known is in the knower. Thus, [2] it is clear that the nature of a non-knowing thing is more contracted and limited. But the nature of a knowing thing has a greater amplitude and extension. But [3] form is contracted through matter... Therefore, [4] it is clear that the immateriality of a thing is the reason that it is capable of knowing...Thus, [5] since God is immaterial in the highest degree...it follows [6] that He is a knower in the highest degree...[16]

By 'matter' in 3, Aquinas does not mean physical stuff, but a metaphysical principle that serves a triple function when compounded with form: it is the substratum of substantial change; together with quantitative dimensions, it is the principle of individuation; and it is a principle of potentiality that limits the actuality of form (see Part Four, chapters 15–16 above). Aquinas

15. Ockham understands Aquinas this way, when he argues that immateriality is not the cause of something's being a knower, because it is logically possible that something be immaterial and not be capable of knowing (*Ord.* I, d.35, q.1, (OTh IV, 427)).

16. *Summa theologiae* I, q.14, a.1, quoted almost verbatim by Ockham in *Ord.* I, d.35, q.1, (OTh IV, 425).

has his eye on the last of these functions when he advances 3. Focussing on the first, he has defended 5 in *Summa theologiae* I, q.3, a.2, and has made use of 5 in q.7, a.1 to explain God's infinity. Although Ockham does not fully share Aquinas's conception of matter, he would agree that God is immaterial in the highest degree (i.e., that He lacks any material component whatever). Premiss 2 is prima facie plausible, since the inability to have forms other than one's own would seem to be some sort of limitation, assuming that having forms other than one's own is logically possible. The crucial question is whether it is a limitation of the sort mentioned in 3—i.e., a limitation that has to be explained in terms of a thing's having a material component.

According to Aquinas's epistemology, understanding occurs in created intellects when they have in them the form of other things without the matter of those things. I understand what it is to be a tree by receiving into my intellect the form of tree without the matter. An angel understands what it is to be a human being by innately having in itself the form of human nature without the matter. But Aquinas seems in premiss 1 to make a very general claim: that in every case of knowledge, knowledge involves the knower in having the form of the thing known without its matter. And he seems to suggest that the ability to receive the forms of another is both a necessary and a sufficient condition for something's counting as a knower.

Ockham might agree with 2 that there is some sense in which beings that can receive the forms of other things into themselves are less limited than those that cannot. But he rejects Aquinas' assumption in 1 that this ability is logically sufficient for a thing's being a knower. On the contrary, he writes, "it pertains no more to the notion of a non-knower not to have a form other than its own than to the notion of a knower."[17] For example, water in a pan is apt to receive the qualitative form heat from the fire under it; yet the water is not a knower. And in general, any substance is apt to receive qualitative forms distinct from

17. *Ord.* I, d.35, q.1, (OTh IV, 425).

itself. But not all substances are knowers.

Aquinas would reply that he does not mean that anything that can receive the form of another really existing in itself is a knower, but only those that can receive the forms of others *immaterially*. For Aquinas has argued that matter is a principle of potentiality that contracts the actuality and hence the intelligibility of the forms that inhere in it. And he has concluded, perhaps on the basis of this premiss, that forms are not actually intelligible unless they are separated from matter.[18] And he has inferred from this that angels, whose proper activity is that of understanding, must not be composites of matter and form.[19] Hence, we should perhaps understand Aquinas to assert

1′. The ability to receive the forms of others immaterially is both necessary and sufficient for something's being capable of knowledge.

But Ockham thinks that this replacement of 1 by 1′ would not do any good. For Aquinas cannot consistently maintain that the ability to receive the forms of others immaterially is a sufficient condition of something's being a knower, because he accepts the Aristotelian thesis that in sense perception a sensible form such as red color informs the medium of perception (the air) before informing the sense faculty. But it does not inform the medium the way in which it informs matter. If it did, the air would be red. Hence, Ockham thinks, Aquinas must hold that the medium of perception receives forms immaterially; yet he would not allow that it is a knower.[20] Further, it would be self-defeating for Aquinas to adopt 1′ as a premiss. For it would immediately follow from 1′ that God is not capable of knowledge. After all, God is immutable; He cannot acquire the forms of things other than Himself. Likewise, He is simple and cannot immutably contain the forms of things other than

18. *De ente et essentia*, c.4, (Roland-Gosselin ed., 31, lines 2–4).
19. *Ibid.*, 31.
20. *Ord.* I, d.35, q.1, (OTh IV, 425–26).

Himself. If God is a knower, then 1′ cannot accurately describe the way "in which a non-knower is distinct from a knower."[21] Indeed, Aquinas himself maintains that God knows everything through His own essence.[22] It seems that Aquinas's argument that God is a knower is based on an epistemological premiss that Aquinas did not want, in the end, to apply to God!

If the ability to receive forms immaterially were a necessary and sufficient condition of a thing's being capable of knowledge, it would follow that only things that are immaterial themselves—i.e., not composites of matter and form—could be knowers, and hence that immateriality was a necessary condition of something's being a knower. In premiss 4, however, Aquinas seems to assert that it is both necessary and sufficient.

In response, Ockham observes that Aquinas cannot consistently claim that immateriality is necessary, since the latter seems elsewhere "to grant that the existence of matter is no impediment to cognition." For Aquinas holds that the human intellectual soul, which is the substantial form of man, inheres in matter so long as it is conjoined with a body,[23] but is separated from matter in the period between death and the Day of Judgment.[24] Nevertheless, he insisted that the soul is better able to understand when it is conjoined to the body and hence when it inheres in matter than when it is separated from it.[25] If the latter claim is true, immateriality is not a necessary condition of a thing's being a knower; nor is a thing's ability to understand proportional to the mode of its immateriality, as Aquinas's argument concludes.

Further, Ockham contends, immateriality is not a logically sufficient condition of a thing's being a knower. For "many accidents are immaterial"—i.e., as forms, they are not composed of matter and form; and some do not even inhere in anything

21. *Ibid.*, (OTh IV, 426).

22. *Summa theologiae* I, q.14, a.2.

23. *Ibid.*, q.76, a.2, ad 1.

24. *De ente et essentia*, c.5, 39–40; *Summa theologiae* I, q.76, a.1, ad 5; *Summa contra gentiles* IV, c.8.

25. *Summa theologiae* I, q.76, a.1 and 3.

composed of matter and form. Yet no accidents are knowers. Likewise, the substantial form body is immaterial and yet not a knower.

In his commentary on the *Sentences*, Book I, d.35, q.1, a.1, Aquinas acknowledges that immateriality is a sufficient condition of intelligibility; but to be a knower a thing must be both immaterial and subsistent. The form of body is immaterial, but not subsistent. God, angels, and the human soul, on the other hand, are alleged by Aquinas to be both immaterial and subsistent. Consequently, they are capable of knowledge.

Ockham charges that being immaterial and subsistent is not a logically sufficient condition of a thing's being a knower either. For "according to the Commentator, the form of the sky is immaterial" and subsists through itself; yet "it is not capable of knowing."[26] Even though Ockham believes Averroes' assertion that the sky is immaterial, to be false, nevertheless he writes,

> ...I do not see that a contradiction is involved in saying that God can make a form that is not capable of receiving any other substantial form and is not capable of informing matter—just as the Commentator assumes that the sky is not matter, because he assumes that it is not a composite of matter and substantial form. Nevertheless, it would be possible that such a form is absolutely incapable of knowing.[27]

And if this is logically possible, being immaterial and subsistent is not a logically sufficient condition of being a knower.

The general strategy for Aquinas's proof rested on the assumption that some general property is the cause of something's being a knower rather than a non-knower. Ockham rejects this assumption. Not only does he find that immateriality is not the cause of something's being capable of knowing, but he judges that no "general reason" can "be given why something is capable of knowing or incapable of knowing. Rather it is by the nature of a thing that it is capable or incapable of knowing."[28] In saying that there is no general reason why something is

26. *Ord.* I, d.35, q.1, (OTh IV, 426).
27. *Ibid.*, (OTh IV, 427).
28. *Ibid.*

capable of knowing, Ockham is denying that there is a property, other than the property of being a knower, that is neither a disjunctive property nor a negative conjunctive property equivalent to a disjunctive property, that characterizes knowers generally[29] and that is a logically sufficient condition of something's being a knower. In saying that there is no general reason why something is incapable of knowing, he is asserting further that no such property (other than properties such as self-identity, that everything necessarily has) is a logically necessary condition of something's being a knower. Thus, the properties of being able or being unable to know are not, in general, logically guaranteed by other properties but are primitive and sui generis. From the mere fact that a thing is or is not capable of knowledge, we can infer nothing further about its essential nature.

In that passage, Ockham grants "that it can be proved somehow *a priori*" that God is a knower. Recall, he holds that the inference '*p*; therefore *q*' is an *a priori* demonstration in the broadest sense, if and only if (i) '*p*; therefore *q*' is a formal inference and '*q*; therefore *p*' is not a formal inference, and (ii) '*p*' and '*q*' are both necessary. As discussed in Part Two, chapter 12 above, an inference is formal, if and only if it holds good mediately or immediately by extrinsic means having to do with the arrangement of the syncategorematic terms in the premisses and conclusion.

Ockham seems to think that 'God is the highest being; therefore He is one who understands, knows, and cognizes' is a formal inference, since it can be reduced to a valid syllogistic form by adding the true premiss 'The highest being is one who understands, knows, and cognizes'. The inference 'God is one who understands, knows, and cognizes; therefore He is the highest being' is not a formal inference, however. For although

29. This qualification—that the property does not characterize knowers generally—is necessary, because in *Ordinatio* I, d.35, q.1, (OTh IV, 428), Ockham allows that the property of being the highest being is logically sufficient for a thing's being a knower. But the former is obviously not a property that could simultaneously characterize each of a plurality of knowers.

it can be reduced to a valid syllogistic form by adding the premiss 'Everyone who understands, knows, and cognizes is the highest being', the latter premiss is false. Ockham concludes that "since the propositions" of the first inference "are absolutely necessary, the demonstration is somehow *a priori*,"[30] although it will not be a demonstration in the strict sense, since we cannot have evident knowledge that the premiss is either true or necessary. Ockham seems mistaken in regarding 'God is the highest being' as a necessary proposition, however. For even if we assume that God exists necessarily, it will not follow that He is necessarily the highest being any more than it will follow that He is necessarily the Lord of creation. For the existence of everything other than God is contingent; and God will be the highest being only if something else exists to which His excellence can be compared.

## 2. THE CASE AGAINST CONCEPTUAL OMNISCIENCE

The idea that God might be a knower who thinks only of Himself derives from Aristotle's conception of the unmoved mover as thought, eternally and actually thinking only of itself. This view was forced to the attention of thirteenth and fourteenth century philosophers by Averroes' commentaries on Aristotle. And a battery of arguments of Aristotelian inspiration became associated with it. It is not entirely clear whether Averroes himself subscribed to this opinion. In his work *On the Harmony of Religion and Philosophy*, he contends that philosophers have been unjustly accused of holding that God does not know particulars.[31] But in his commentary on Aristotle's *Metaphysics*,[32] he seems to say that God understands nothing

30. *Ibid.* (OTh IV, 428).

31. Translated by George F. Hourani; the relevant section is reprinted in *Medieval Philosophy: From St. Augustine to Nicholas of Cusa*, eds. John F. Wippel and Allan B. Wolter, (New York, 1969), 235–39.

32. *Great Commentary on the Metaphysics*, Comment 51 on *Metaphysics*, 1075a10; selection reprinted in Wippel and Wolter, *op. cit.*, 239–240.

outside Himself, but knows things other than Himself precisely by knowing their cause—viz., by knowing Himself. Aquinas assigns to Averroes the view that God cannot conceive of anything other than Himself *distinctly*, although He understands them in a general way insofar as they are beings.[33] The position that God does not conceive of things other than Himself or of particulars other than Himself at all seems to have become more firmly associated with Averroes when this was anathematized in the condemnation of the Latin Averroists in 1270. Thus, we find Ockham saying that it is "the opinion of the Commentator that not only could it not be proved that God understands everything other then Himself, but even that He does not understand things other than Himself" and adding that Averroes has "imposed" this opinion on Aristotle.[34] Ockham says that

> ...if it could be proved that God understands nothing other than Himself, this would be because He is of the highest nobility and exceeds the nobility of everything else...[35]

All of the arguments Ockham examines are based on this premiss, and contend that God would be for some reason less noble if He understood things other than Himself. The arguments fall into two groups.

(a) The first is represented by the argument most explicitly found in Aristotle's *Metaphysics*, Book XII, 1074b26–27. It contends that to understand vile things is ignoble *of itself*. Aristotle apparently believed that some things were so vile that it would be absurd to suppose that the most excellent being knows them, and in fact that the most excellent being would be better off if it did not occupy its thoughts with anything but itself.[36]

Ockham replies that merely understanding vile things does not, *of itself*, make a being less noble. The reason we are

33. See Aquinas's attempted refutation of this suggestion in *In I Sent.*, d.35, q.1, a.3, (Parma VI, 284).

34. *Ord.* I, d.35, q.2, (OTh IV, 434).

35. *Ibid*, (OTh IV, 440).

36. Cf. *Ord.* I, d.35, q.2, (OTh IV, 435, 5th arg.).

tempted to think so is that the thought of vile things in men so often has debasing accompaniments or consequences. For instance, men sometimes become preoccupied with thoughts of vile things, so that they are prevented from thinking of noble things. Again, they may even "be inclined by such an act of understanding to *do* something vile," and human thoughts of things are usually caused by the vile things themselves. But while there might be a sense in which each is debasing, it is logically possible that someone should think of vile things without any of these accompaniments. And none of them goes with such an understanding on God's part.[37]

(b) The other group of arguments assume that "it pertains to the notion of an act of understanding that it depends on its subject,"[38] and contend that God could not be the noblest of things, if He depended on anything other than Himself.

(i) Some of these arguments depend on a further epistemological theory inspired by Aristotle's account of human understanding. According to it, an act of understanding an object $x$ is caused, at least indirectly, by the object $x$, and hence presupposes the existence of $x$. In knowing itself, a thing would depend only on itself. But it would depend on something other than its own substance to actualize its capacity for understanding that other thing.[39] The noblest of things is impassible, however; it cannot be causally affected by anything else. Again, given that the object is a partial cause of an act of understanding it, "when something *necessarily* understands something other than itself, its existence *necessarily* depends on the existence of another." Hence, God, as the noblest of beings, cannot understand—let alone necessarily understand—things other than Himself.[40]

Ockham's reaction to these arguments is simply to reject the epistemological principles on which they are based, as not having general application. It is true that objects are, according to

37. *Ibid.*, (OTh IV, 443).
38. *Ibid.*, (OTh IV, 441).
39. *Ibid.*, (OTh IV, 435, 2nd arg.); cf. *Metaphysics*, XII, 1074b17–20.
40. *Ord.* I, d.35, q.2, (OTh IV, 435, 3rd arg.), (italics mine).

the natural order of causes, partial causes of human acts of understanding them.[41] But nothing causes God to understand anything. Hence His necessary understanding of things other than Himself from eternity would require neither that He be acted upon by less noble objects, nor that such objects necessarily exist.[42]

(ii) Another argument asserts that "everything that understands something other than itself is transformed into that other. But God cannot be transformed. Therefore, He does not understand anything other than Himself."[43] Ockham replies tersely "that the major is false unless He understands something other than Himself for the first time."[44] If He did, He would undergo a change. And immutability is supposed to be one of His perfections.[45] But what reason is there to suppose that in understanding many things, God would have to understand any of them for the first time? Why could He not understand an infinite plurality of things eternally and immutably? Aquinas considers an argument that the latter is impossible, again based on Aristotle's account of human reasoning:

> Further, things understood are related to the intellect as pictures are to a tablet. Thus, the Philosopher in *De anima* III, text 14, compares the possible intellect before it understands to a tablet on which nothing has been written. But it is impossible that the same part of the same body be figured with different figures simultaneously. Therefore, it is impossible that the same intellect should understand many things simultaneously. Consequently, if the divine intellect understands itself and many other things, it is necessary that there should be succession in that intellect—which would make it weary, because it would not actually have what it sought—which is problematic.[46]

41. As noted in Part Three, chapter 13 above, Ockham does make this claim perfectly general, although he should not have. For I can think of a unicorn, although none exists or has caused such an act of understanding in me.

42. *Ibid.*, (OTh IV, 442–43).

43. *Ibid.*, (OTh IV, 435, 4th arg.).

44. *Ibid.*, (OTh IV, 443).

45. *Ord.* I, d.8, q.7, (OTh III, 259–261).

46. *In I Sent.*, d.35, q.1, a.2, (Parma VI, 283, col.1).

The theory of knowledge here is the one presupposed by the first premiss of Aquinas's argument that God is a knower, examined in section 1 above. But, as we have seen, Aquinas himself does not think it is applicable to divine knowledge and replies accordingly:

> In reply to the third, it must be said that that argument holds for every intellect that cognizes different things by different species—which does not apply to God, who cognizes other things by cognizing His own essence.[47]

Ockham, who denies that understanding is by intelligible species even where human knowledge is concerned, would likewise reject the argument and the analogy on which it is based. (An argument that divine immutability is inconsistent with God's factual omniscience will be considered in chapter 26 below.)

(iii) In another argument, Aristotle is invoked as a witness that if God knew things other than Himself, He would not merely be acted upon by such things, He would be identical with them.

> Further, he argues from what the Philosopher says in *De anima*, Book III: 'In things separated from matter, the intellect and the thing understood are the same.' But God is maximally separated from matter. Therefore, in Him, intellect and the thing understood are the same. Therefore, He does not understand anything other than Himself.[48]

This argument turns on a literal interpretation of Aristotle's claim, for which there was some historical precedent in Middle and Neoplatonism (see chapter 24 below). If this principle were literally true, then since God is literally identical with Himself alone, He could understand Himself alone. But so understood, the principle is obviously false. The theory that understanding is receiving the intelligible species of understood objects provides some rationale for saying that the intellect and thing understood are the same in some looser sense. The intellect is somehow the

47. *Ibid.*, (Parma VI, 283, col.2).
48. *Ord.* I, d.35, q.2, (OTh IV, 435).

same as humanity when it has the intelligible species of humanity, stripped of any matter existing in it. But, according to Aquinas, God does not understand things other than Himself by receiving forms other than the divine essence into Himself. The divine essence is itself the intelligible species by means of which God can understand both Himself and everything other than Himself. Thus, intelligible species by which God understands things other than Himself is identical with His own essence. Aquinas adds, implausibly, that this is all Aristotle meant to say when he insisted that the unmoved mover understands itself alone.[49] Ockham, however, understands Aristotle's claim that "in things separated from matter, the intellect and the thing understood are the same," to be asserting that the intellect and thing understood are *literally* identical. He reasons that since an act of understanding can be *literally* identical only with itself, Aristotle must here be making the trivial claim that when an act of understanding is understood, the thing understood is nothing other than the act of understanding. He insists that Aristotle "does not mean that everything understood is the same as the one who understands."[50] Of course, thus misunderstood, Aristotle's claim provides no basis for concluding that God does not understand things other than Himself.

Thus, in Ockham's opinion, neither group of arguments provides any reason for supposing that God would be less noble if He understood things other than Himself. Further, Ockham thinks that

> ...it does not pertain to the notion of an act of understanding either to be more perfect or to be less perfect than or to be equal to its object. Therefore, ignobility of the object is consistent with the greatest nobility of the act of understanding. Therefore, the divine act of understanding, insofar as it is noble in the highest degree, could be an act of understanding of an ignoble object.[51]

And if this is so, what is, to Ockham's mind, the best possible

49. *In I Sent.*, d.35, q.1, a.2, (Parma VI, 283, col.1–2).
50. *Ord.* I, d.35, q.2, (OTh IV, 443).
51. *Ibid.*, (OTh IV, 440–41).

strategy for proving that God does not conceive of things other than Himself is no strategy at all.

## 3. THE CASE IN FAVOR OF CONCEPTUAL OMNISCIENCE

According to Ockham,

> ...If it could be proved that God understands everything other than Himself, this would be especially by means of the fact that God causes everything other than Himself...,[52]

and he considers two types of arguments based on this claim. In Ockham's opinion, however, neither strategy yields a demonstration, for the simple reason that "it has not been adequately proved that God is the cause of everything. In particular, it cannot be proved that He is the efficient cause of everything."[53] I shall examine his defense of these conclusions in chapter 28 below. In the remainder of this chapter, I shall consider one argument of each type and focus on Ockham's other reasons for rejecting them. Then I shall indicate how he uses materials from them to construct a probable argument that God understands something other than Himself.

(a) In *Summa theologiae* I, q.14, a.5, Aquinas argues that God must understand everything other than Himself perfectly, in order to understand Himself perfectly.

> ...it is necessary that God knows things other than Himself. For it is obvious that [1] He understands Himself perfectly...But [2] if something is known perfectly, it is necessary that its power (*virtus*) is known perfectly. [3] The power of a thing cannot be known perfectly, however, unless the things to which the power extends itself are known perfectly. Thus, since [4] the divine power extends itself to other things, because it is the first efficient cause of every being, as is clear from what was said above (q.2, a.3), it is necessary that [5] God knows things other than Himself...

52. *Ibid.*, (OTh IV, 441).
53. *Ibid.*, (OTh IV, 437).

Aquinas thinks that he has proved 1 in *Summa theologiae* I, q.14, a.1–3, and 4 in the second of the five ways.[54] Granting Aquinas these assumptions (as Ockham would not do), the argument seems initially plausible. 2 seems reasonable, as does the contention that what ultimately makes a power the very power it is, is the extent of its range. For example, my ability to ride a bicycle and my ability to bake a cherry pie, are ultimately distinguished by the fact that they are powers to do different things. Hence, it seems that to conceive of a power perfectly, one would have to conceive of the objects to which it extends. Aquinas's conclusion appears to follow by valid inferences.

Ockham challenges 3, however, on the ground

> ...that there is no adequate proof that someone who knows some power perfectly knows all the things to which the power extends itself. For it was proved earlier that that which is the cause can be perfectly known when no effect is known. For it was proved that an adequate non-complex cognition of one thing cannot be had from a non-complex cognition of another thing.[55]

Everything can be perfectly conceived of—by a non-complex, intuitive or abstractive cognition—apart from anything that is really distinct from it. Since a thing such as heat is essentially identical with its causal power (*virtus*) to produce heat (see Part Four, chapter 18 above) it follows that both a thing and the power which it is can be perfectly conceived of apart from anything really distinct from it. Since causes are distinct from their effects—really distinct from their actual effects and possibly really distinct from their merely possible effects—a thing and the causal power that it is can be perfectly conceived of apart from any of its actual or possible effects. The intellect here is no different from

> a sense that knows its object perfectly and consequently knows the power of that object, since its object and the power of that object are in no way different. Nevertheless, it is not necessary for sense to know

54. *Summa theologiae* I, q.2, a.3.
55. *Ord.* I, d.35, q.2, (OTh IV, 436–37).

anything to which that power extends itself.[56]

Apparently, a thing such as heat can be perfectly conceived of without being recognized as the power to produce heat. The latter knowledge is presumably complex, propositional knowledge of the kind that we can in fact acquire only by experience (see Part Four, chapter 18 above). If the power can be known perfectly without conceiving of any of its objects, Ockham could grant 2 as an implication of the above mentioned presupposition. On the other hand, if one thought, as Aquinas doubtless did, that to understand a power perfectly, one had to conceive of the thing that is the power as the power to do such and such, Ockham would clearly reject 2. In either case, Ockham would maintain that for God to know (in the sense of conceive of) Himself perfectly, He must know (in the sense of conceive of) the thing that is His power perfectly, but He need not conceive that it is a power or to what the power extends itself.

(b) Scotus offers a trio of arguments, which attempt to show that since God is the first efficient cause of everything other than Himself, He must also be the cause that voluntarily and knowingly orders them to an end. Since the third will be discussed in chapter 29 below, and since the first and second are similar, I shall concentrate on the first, which may be set out as follows:

1. Every natural agent acts for the sake of an end.

2. Every natural agent, precisely considered, would act as it does of necessity and equally, if it acted for the sake of nothing.

3. Therefore, if it acts for the sake of an end, this is because it is ordered to an end by something that loves the end. (2)

4. A thing can order others to an end, only if it knows those

56. *Ibid.*, (OTh IV, 437).

things, knows their activity, and knows the end to which they are ordered.

5. That on which the whole of nature depends in acting seems to be nothing other than the first efficient cause. (1, premiss)

6. The first efficient cause is God.

7. Therefore, God knows the end for which He acts and everything in the whole of nature, which He orders to that end. (4, 5, and 6)[57]

Behind the inference of 3 from 2 is the idea that since a natural agent would necessarily do what it does no matter what, it cannot order its action to one end rather than another. Neither could any other agent that acts necessarily. Therefore, if its action is ordered to one end rather than another, this must be because it was so ordered by the only kind of agent that has choice in its actions—a voluntary agent. Scotus defends 6 by a complex cosmological argument. Nevertheless, although Ockham regards the above argument as "defensible" he denies that it has the force of a demonstration, because it makes assumptions "that it would be necessary to prove."[58] Even granting 3 and 6, 1 is uncertain. Ockham insists that "it cannot adequately be proved that every effect has a final cause."[59] Although "it can be proved with evidence from experience and not otherwise, that a free agent acts for the sake of an end," none of the philosophers' arguments are adequate to show that natural agents in general do.[60] Further, even if it could somehow be proved that God orders everything other than Himself to an end, it would not follow that He conceives of

57. *Ord.* I, d.2, p.1, q.1–2, n.75–78, (Vaticana II, 175–76); cf. Aquinas, *In I Sent.*, d.35, q.1, a.2, (Parma VI, 283, col.1).

58. *Ord.* I, d.35, q.2, (OTh IV, 439).

59. *Quodl.* IV, q.1, (OTh IX, 295).

60. *Ibid.*, (OTh IX, 299).

everything that He so orders. Ockham admits that it is more probable that He does than that He does not. Nevertheless, someone could consistently claim that just as "a natural agent knows neither its end, nor itself which acts for the sake of an end, nor the effect which it produces," so "the first efficient cause is said to act for the sake of an end, not because it knows the effect it produces, but because it knows its end."[61] Thus, 4 is likewise uncertain.

(c) If God's conceptual omniscience cannot be demonstrated by focussing on His causal role in relation to the universe, Ockham thinks that a defensible argument can be based on it. For even though it cannot be proved that God is the first efficient cause of everything other than Himself, it is highly improbable that God would cause nothing at all to exist. Indeed, Ockham reasons,

> ...it is probable that something should depend on the first cause in such a way that—assuming, *per impossible*, that the first cause was destroyed - the destruction of that thing would follow mediately or immediately. But everything of this sort counts as the cause of the other one...[62]

For the latter is, by definition, an immediate cause of the former (see Part Four, chapter 18 above). Again, in *Quodlibeta* II, q.1, he observes that

> ...a persuasive argument can be given that God is the efficient or moving cause of some effect. Otherwise—if He could not be the efficient cause of anything in the universe—He would be supposed to exist in vain.[63]

And if God is the mediate efficient cause of anything, He is the immediate efficient cause of something. Further, although it cannot be demonstrated that the first efficient cause conceives of what it causes, it is nevertheless improbable that it does not

61. *Ord.* I, d.35, q.2, (OTh IV, 439).
62. *Ibid.*, (OTh IV, 441–42).
63. (OTh IX, 109).

do so—"for in that case it would produce and be ignorant it produced."[64] From these two probable premisses, one validly infer the probable conclusion that God conceive *some* effect.

64. *Ord.* I, d.35, q.2, (OTh IV, 442).

# 24

# Divine Ideas and God's Knowledge of Creatures

If God eternally knows everything other than Himself, how does He do it? Philosophers have commonly supposed that when someone knows or conceives of something, he does so by having an idea of it. And medieval philosophers have generally answered that God knows things other than Himself by having ideas of them. But what are ideas? Are they acts of thought in the knower? Or are they objects of such thoughts and distinct from them? In the theological context, each answer posed its problems. And taking their roots in Platonism, medieval solutions make ideas run the ontological gamut from *entia realissima* identical with the divine essence (in Augustine and Anselm) to the creatures themselves or even nothing at all (in Ockham). After a brief sketch of the Platonist background, I shall focus on permutations of the doctrine at the hands of thirteenth and fourteenth century philosophers. As we shall see, the differences reflect philosophical disagreements as much as varieties of theological emphasis. But this should not be surprising, since this is a problem in philosophical theology.

## 1. IDEAS ARE PLATONIC IDEAS IN THE DIVINE MIND

In his middle dialogues at least, Plato held not only that ideas are the objects—not the acts—of knowledge, but also that they are the only appropriate objects of knowledge. For only what is fully real can be an object of knowledge, properly speaking. And only the ideas, which exist eternally and immutably, independently both of the spatiotemporal order and of any and

every mind, are fully real. Temporal and changing things are not, properly speaking, said to *be*, but only to *become*[1] and so are at best objects of true belief.[2] Further, since for Plato there are no ideas of particulars, but only of universal kinds, knowledge properly speaking extends to universals only. Nor are the ideas objects of theoretical knowledge only. For in the *Timaeus* (30c–31a; 37c–38c; 51e–52d), they are said to be the paradigms to which the Demiurge looks in producing the spatio-temporal order.

This Platonic view could not simply be transplanted into medieval theology without alteration, however. For according to the latter,

(T1) God alone exists necessarily, and everything else that exists is the product of His free and contingent volition.

Yet, as eternal, immutable, and mind-independent, the Platonic ideas would exist independently of both the divine will and the divine intellect. Again, if

(T2) It is because God looks to the ideas in production that creation is rational,

it would follow that God needed exemplars outside Himself to create rationally and so would not be a self-sufficient agent.[3] Further, medieval Christianity could not tolerate the claim that particulars—especially particular human beings—are beyond the reach of God's cognitive grasp. For

(T3) God is essentially omniscient, and perfectly conceives of everything other than Himself.

If creatures are not the *ens realissimum*, they are nevertheless beings to be thought of. If

1. E.g., *Timaeus*, 29a–29d.
2. *Republic* V, 474–180; *Timaeus*, 28a–19d.
3. Cf. Aquinas, *In I Sent.*, d.36, q.2, a.1, ad 2, (Parma VI, 292).

(T4) God conceives of everything other than Himself by ideas,

the ideas must bear some relation to particulars that enable Him to think of particulars thereby.

Both Augustine and Anselm agree that (T4) God conceives of everything other than Himself by means of ideas, and that (T2) it is because God thinks of the ideas in producing creatures that creation is rational.[4] And like Plato, they maintain that the ideas are the standards against which the perfection of spatio-temporal things is measured. Anselm explicitly asserts that spatio-temporal things are only imperfect imitations of their eternal paradigms.[5] Both try to reconcile these claims with (T1) by maintaining that the ideas are really identical with the divine essence. Thus, in *On Free Choice of Will*, Book II, Augustine advances a Christian Platonism of mathematics citing the ideas as the reality that makes immutable truths such as '7 + 3 = 10' true, and uses the argument for such ideas to prove the existence of God. And in the *Dialogue on Truth*, Anselm argues for the existence of a Form of Truth by which all truths are true and identifies it with God.

One trouble with this solution is that it seemed to compromise the doctrine that

(T5) God is simple.

For Plato believed that

(T6) There is a plurality of different ideas.

And in *On Eighty-Three Different Questions*, q.46, Augustine explicitly agrees that God makes a man by one *ratio* or idea and a horse by another. But if a plurality of ideas is really identical

4. Augustine, *On Eighty-Three Different Questions*, q.46, "About Ideas"; *Lectures or Treatises on the Gospel of John*, tractatus I, sec.16–17; Anselm, *Monologium*, c.9–12 and 29.

5. *Monologium*, c.29 and 31; cf. Augustine, *De trinitate* IV, c.1, sec.3; VIII, c.6, sec.9; VIII, c.9, sec.13.

with the divine essence, how can it be simple? Anselm, on the other hand, insists on (T5) the simplicity of the divine Word (the locus of the ideas) as identical with the supreme nature.[6] He may have hoped to avoid inconsistency by saying that there is only one idea or model according to which God makes things (he uses only the singular in *Monologium*, c.9–12)—i.e., by rejecting (T6). Let us call this metaphysical difficulty of how to reconcile the plurality of ideas with divine simplicity and avoid admitting that anything is coeternal with God "the Simplicity Problem."

A second difficulty is that on this account God seems to know creatures mediately by conceiving of something else—i.e., it embraces representationalism in the theory of divine knowledge and a rather unpromising representationalism at that. For by (T3), God conceives not only of created natures but also of created particulars perfectly. But if Platonic ideas are only of universals, then by (T4) God conceives of particulars only by conceiving of universals. Ockham notices this point and offers an opinion about Augustine's solution, when he observes that

> if Plato says that ideas are of species and not of particulars, it should be understood that he said this perhaps because he was of the opinion that God did not understand particulars, but only species of particulars...But if he thought this, he was mistaken. And the Blessed Augustine did not follow him on this point but on others about which he was not mistaken.[7]

Yet, despite the Neoplatonic precedent for asserting that there are ideas of particulars and not merely of universal kinds,[8] it is difficult to find explicit textual evidence that Augustine followed him in doing so. And Anselm's admission that spatiotemporal things are only imperfect imitations of their eternal paradigms seem only to make matters worse. Let us call the problem of how to reconcile (T3) with (T2) and (T4) the "Representa-

6. *Monologium*, c.29.
7. *Ord.* I, d.35, q.5, (OTh IV, 505).
8. E.g., Plotinus, *Enneads* V.7.1.

tionalist Problem."

Thirteenth and fourteenth century philosophers agreed to say on Augustine's authority that (T6) there is a plurality of ideas (T4) by thinking of which God conceives of everything other than Himself and (T2) looking to which He rationally creates whatever He creates. They attempted to solve the Simplicity Problem by appealing to a distinction between real and non-real modes of existence. The really existent divine essence is one simple thing that involves no real internal complexity (T5). But the activity of the divine intellect produces a possibly infinite plurality of things in some non-real mode of existence. It is this non-real plurality that provides the rationale for speaking of a plurality of ideas. And while many thirteenth century doctors favored a representationalist position, Scotus and Ockham progressively moved to replace it with direct realism in the theory of divine knowledge.

## 2. IDEAS ARE RELATIONS OF IMITABILITY

The common opinion of thirteenth century theologians —including Albert the Great, Thomas Aquinas, and St. Bonaventure[9]—was that the divine ideas are really the same as the divine essence but distinct in reason from it, and hence that God does not conceive of creatures immediately and directly but only insofar as they are represented by the divine essence. Scotus and Ockham explicitly consider the version advanced by their more immediate predecessor, Henry of Ghent. Henry holds that God knows Himself through His own essence. Since the divine essence is similar to everything it produces and contains the perfection of every limited essence in a more eminent way, God's thought of Himself in Himself provides Him with some indistinct awareness of things other than Himself. Yet,

9. Albert the Great, *In I Sent.*, d.35, E, 7, (Borgnet ed., vol.26, 189–192); E, 9, 192–95. Thomas Aquinas, *In I Sent.*, d.36, q.2, (Parma VI, 293); *Summa theologiae* I, q.15, a.2; *Summa contra gentiles* I, c.54. St. Bonaventure, *In I Sent.*, d.35, q.1, 3, and 4.

God cognizes creatures not only "insofar as they are one in Him and not distinct either from Him or from one another," but also "insofar as they are distinct from one another."[10] And He does this by conceiving of Himself insofar as He is capable of being imitated in infinitely many different ways. So considered, Henry explains,

> His essence has the aspect (*ratio*) of an idea, so that an idea is nothing other than the divine essence under the aspect (*ratio*) of imitability by which things other than itself are apt to imitate it...[11]

Elsewhere, he maintains that "the formal definition of 'idea' is only 'the relation of imitability in the divine essence [produced] by the consideration of the intellect."[12] Since there is a plurality of such relations, there is a plurality of ideas. But since these relations of imitability pertain to the divine essence only by virtue of the divine intellect's "considering and comparing its essence to the essence of creatures insofar as it can be imitated by them," the relations thereby produced are not real relations but relations of reason, and so not real beings but beings of reason.[13] That is why the divine essence thus conceived of can be "formally and actually those distinct ideas," while yet being simple in the highest degree.[14]

(2.1) Ockham rejects the ontology of this common opinion, on the general ground that nothing can be both really the same as something else and distinct in reason from it. For on Ockham's view, a being of reason cannot be really the same as any real thing. And there can be a distinction of reason between $x$ and $y$ only if either $x$ or $y$ is a being of reason (see Part One, chapter 2). Thus, he argues that

1. Either an idea is (a) precisely the divine essence, or (b) precisely the relation, or (c) the aggregate of the essence

10. *Quodlibeta* VIII, q.1, (Venice, 1613, T.II, fol.1v).
11. *Ibid.*
12. *Ibid.* IX, q.2, fol.64v.
13. *Ibid.* VIII, q.1, fol.1v; q.8, fol.18v; IX, q.2, fol.64v–65r.
14. *Ibid.* VIII, q.8, fol.18v.

and the relation.

2. If (1a), there is only one idea because there is only one divine essence.

3. It is not the case that there is only one idea. (T6)

4. Therefore, not-(1a). (2 and 3)

5. If (1b), then the relation is (a) a real relation or (b) a relation of reason.

6. If (5a), then it is the relations that are the persons of the Trinity—which all would deny.

7. If (5b), then the idea is not really the same as the divine essence. because no being of reason is really the same as any real being and hence no being of reason is really the same as the divine essence.

8. Therefore, not-(1b). (5, 6, and 7)

9. If (1c), then it is not really the same as the divine essence, because no aggregate is identical with one of its parts.

10. Therefore, an idea is not really the same as the divine essence. (4, 8, and 9)

Defenders of the common opinion would find Ockham's criticism unfair. Henry, for instance, says that the definition of the term 'idea' makes mention both of the divine essence and the relation. Presumably, he could say, if he wished, that an idea is a sort of aggregate one of whose components—viz., the divine essence—is real, and one of whose components is not real but a being of reason. He could then claim that ideas are really the same as the divine essence while maintaining that there is a distinction of reason among different ideas, because different ideas have the same real thing but different beings of reason as their components. Admittedly, it is misleading of

Henry and the others to speak of relations of reason as being *in* God, if the latter is what they mean. But the ontology of the position would be unobjectionable.

(2.2) Scotus challenges Henry's position on epistemological grounds, insisting that God cannot come to conceive of creatures distinctly by conceiving of relations of imitability distinctly, because the former is epistemologically prior to the latter, and not vice versa. The reason is that such relations of imitability are produced by an act of the divine intellect comparing itself to something else insofar as it is capable of being imitated by that being. But, Scotus contends, God cannot make such a comparison unless He first, or at least simultaneously cognizes that with which He compares Himself:

> ...For it is unintelligible to say that His own intellect compares His essence to (a) stone without (the) stone's being cognized before or simultaneously. Otherwise, He would be comparing it to something unknown. Therefore, when a relation is produced, the object is cognized. Therefore, it is not necessary to assume that such a relation precedes in order for the object to be cognized.[15]

Henry's talk of God's comparing His own essence to created essences invites Scotus's complaint. Consider the following analogy. Suppose I see a blue coat. Henry will say that I thereby have an indistinct cognition of other coats like it. Viewing the blue coat, I may think to myself, "This coat could come in red." If when I do this, I actually envision the red coat, then—Scotus will say—I am not conceiving of the red coat by means of its relation of imitability, but rather directly. On the other hand, if I do not envision it, but merely formulate the proposition 'This coat could come in red' using my abstract general concept of red, then Scotus will say that I do not conceive of the red coat distinctly. Either way, I do not use the relation of imitability—that this coat could come in red—to conceive of the red coat distinctly.

Scotus seems to be right in supposing that I cannot conceive

15. *Lectura* I. d.35, q.u, n.20, (Vaticana XVII, 451); cf. *Ord.* I, d.35, q.u, n.30, (Vaticana VI, 258–59).

of a relation without conceiving of both relata in some way or other, and in thinking that I cannot have a fully distinct conception of the relation of imitability without having a distinct conception of the term of the relation. But he seems to overlook the possibility that I might use my general conception of a coat that resembles the blue coat in style but not in color to arrive at a distinct conception of the red coat, by trying to envision the coat by producing an image that matches the blue coat feature for feature except for color. Here an imitability relation and red coat indistinctly conceived do serve as a means of my coming to a distinct conception of the red coat. Perhaps it was some analogue of this last case that imitability-theorists wished to project onto the divine psychology. Just as I can think in a general way of a coat similar to the blue coat in style but not in color, so God thinks of something that is similar to Him except that it exemplifies rather than is identical with its perfections, and except that it exemplifies these perfections and not those, and except that it is not maximally perfect even in these respects, etc. And just as my general conception is a means for me of arriving at a distinct mental picture of the red coat, so God's conceiving of Himself together with such abstraction and negation is a means for Him of arriving at a distinct conception of human nature or donkeyhood. If this is what the imitability theorists had in mind, they could have been more explicit about it. (They do not make clear, for example, that God ever arrives at a conception analogous to my distinct mental picture of the red coat. If He does not, then (T3) is threatened, and the Representationalist Problem reasserts itself.) But even if their account of the epistemological priorities is a possible one, we may wonder why we should attribute such a sequence to God's thought. Why not credit Him with the ability to conceive of created natures immediately and directly? After all, it is just a psychological limitation on my part that I cannot immediately envision the red coat. As Ockham comments, "the divine essence will be able to understand everything other than itself without any relations of reason."[16]

16. *Ord.* I, d.35, q.5, (OTh IV, 483).

## 3. SCOTUS'S POSITION

Scotus's own view is that God understands creatures not only mediately by understanding something else, but immediately "by a direct act." Insofar as they are understood, created natures have intelligible existence, a diminished, non-real mode of existence, for which they depend on the divine intellect. Sometimes, Scotus talks of the divine intellect's *producing* the objects of its thought in intelligible existence.[17] Relations of imitability also have intelligible existence as objects of God's thought. Scotus does not mind whether we give the label "ideas" to the creatures themselves insofar as they have intelligible existence,[18] or, following Henry of Ghent, to relations of imitability.[19] He thinks that support for both usages can be found in Augustine.[20] But it is only when 'idea' is understood the first way that Scotus will endorse (T2) and (T4). Either way, the plurality of ideas will involve no real composition in the really existent divine essence, because the plurality will have the diminished mode of intelligible existence as an object of thought.

What Scotus is concerned to establish is his view of what the epistemological priorities are, over and against that of Henry of Ghent and the imitability-theorists. Since Scotus believes with the imitability-theorists that God is immutable and eternal in the sense of being timeless, he does not think of God as conceiving of His own essence *at a time before* He conceives of the essences of creatures, or as conceiving of the latter *at a time before* He conceives of relations of imitability, or vice versa. Nevertheless, they all seem to have thought that God's conception of Himself is logically presupposed (for it occurs earlier in the order of explanation than His conception of anything else).

17. *Lectura* I, d.35, q.u, n.22, (Vaticana XVII, 452); *Ord.* I, d.43, q.u, n.14 and 16, (Vaticana VI, 358–360).

18. *Lectura* I, d.35, q.u, n.30 and 33, (Vaticana XVII, 455–56); *Ord.* I, d.35, q.u, n.40, (Vaticana VI, 261).

19. *Lectura* I, d.35, q.u, n.22, (Vaticana XVII, 452–53); *Ord.* I, d.35, q.u, n.32, (Vaticana VI, 258).

20. *Lectura* I, d.35, q.u, n.33, (Vaticana XVII, 456).

Invoking the Aristotelian definition of natural priority—according to which *a* is naturally prior to *b* if and only if *b* depends on *a* for its existence but not vice versa—Scotus concludes that even if God's conception of something is not temporally prior to His conception of anything else, nevertheless, it is naturally prior. And Scotus maintains that just as where there is a genuine temporal ordering of things we can relativize predications to instants of time, so that, for example, we can assert without contradiction that at $t_1$ Aristotle thinks of Socrates and Plato but does not think of them as similar and that at $t_2$ Aristotle thinks of Socrates and Plato as similar; so where there is a genuine order of natural priority and posteriority, we can relativize predications to instants of nature and assert without contradiction that at $n_1$ God conceives of His own essence and does not conceive of the essences of creatures and that at $n_2$ God does conceive of the essences of creatures. Scotus makes use of this idea in offering the following analysis of God's thought:

> ...the divine intellect first understands its essence. In the second instant, it understands a creature in intelligible existence, not by an act of comparison, but understands (a) stone by a direct act, which is followed by a relation [of that stone] to the divine intellect or to the divine knowledge according to the third mode of relation...But in the third sign or instant of nature, the divine intellect compares its essence to a stone in intelligible existence and a certain ideal relation is caused by this comparison. In the fourth instant, however, He reflects on that comparison and act of comparing and cognizes an idea, so that the idea as it is a certain being, follows the act of understanding a creature in the third instant. And in another, namely, the fourth, instant, there follows a cognition and act of understanding that idea and that relation.[21]

Contrary to the imitability theory, God's thought of creatures is prior to His thought of their relation to Him, so that the latter cannot be that by thinking of which God first thinks the former.

21. *Ibid.*, n.22, (Vaticana XVII, 452–53); *Ord.* I, d.35, q.u, n.32, (Vaticana VI, 258).

## 4. OCKHAM'S CRITIQUE OF SCOTUS

Ockham does not dispute Scotus's claim that creatures are among the immediate objects of God's thought. But he does object to Scotus's account of how God understands different things at different instants of nature. (4.1) *Ockham's Rejection of Scotus's Instants of Nature.* Ockham finds Scotus's notion that a plurality of instants of nature can be distinguished in eternity or within a single instant of time, absurd.[22] But this is not because he rejects the claim that some things are genuinely naturally prior to others. On the contrary, he endorses it in his commentary on Aristotle's *Categories*, and goes so far as to catalog various ways in which 'natural priority' was understood by Aristotle: (i) one can say that the concept of *G* is naturally prior to the concept of *F* if '*x* is *F*' entails '*x* is *G*', but '*x* is *G*' does not entail '*x* is *F*'. Genera are naturally prior to species in this sense. (ii) Otherwise, one can say that one thing is naturally prior to another, if it can exist in reality without the other's existing, but not vice versa. In general, if *A* is a cause required for the existence of *B* and *A* can exist without *B*'s existing but not vice versa, then *A* is naturally prior to *B*. (iii) Again, when *A* cannot exist without *B* and *B* cannot exist without *A* but *A* is somehow a cause of *B* and *B* is not somehow a cause of *A*, then *A* is naturally prior to *B*.[23] Ockham himself refers to (i) as "priority of inference" and grants that in this sense the predication of 'happiness' of God the Father is naturally prior to that of 'begetting the Son'.[24]

(4.1.1) In many passages, Ockham's attack on Scotus's doctrine appears frivolous. For example, he closes his discussion in the *Categories*-commentary with an argument that there are no such instants of nature, because there are no *things* that such instants of nature could be.

> ...When something is naturally prior, it should not be said that the

22. *Ord.* I, d.35, q.4, (OTh IV, 468).
23. *Expos. Praedicam.*, c.18, (OPh II, 326–27).
24. *Ord.* I, d.1, q.5, (OTh I, 471).

naturally prior exists in any instant of nature in which the posterior does not exist, or that it exists in anything prior in which the posterior does not exist. The reason is this: I ask what that instant of nature is, in which you say that the naturally prior exists while the naturally prior does not exist in it...[25]

As Ockham sees it, there are two alternatives: either an instant of nature is an extramental thing, or it exists in the mind. But there are two reasons for denying that such an instant exists only in the mind. One is that then the natural priority of one over another would depend on the existence and activity of the intellect, so that "if there were no mind, nothing would be naturally prior—which is false."[26] Further, one can argue by induction that instants of nature are not to be identified with any of the things generally admitted to exist in the mind: "For it cannot be supposed to be an act of understanding, or a habit, or a power, or a species (according to those who assume species), or an object of the mind..."[27] On the other hand, Ockham argues that an instant of nature cannot be identified with any mind-independent thing either. For if it could, it would have to be either substance or accident. But Ockham thinks that it clearly could not be either.

...Thus, consider Socrates, who is naturally prior to that whiteness [that inheres in him]. If Socrates exists in some instant of nature in which the whiteness does not exist, it must be either that the instant of nature is Socrates, and then Socrates will exist in Socrates; or that it is a part of Socrates, and then Socrates will exist in one of his parts; or that it is an accident of Socrates, and then Socrates will exist in his accident. It is clear by induction that none of his accidents is the instant of nature in which he exists. Nor can it be said that the instant of nature is anything extrinsic to Socrates, as is clear by induction over everything extrinsic to Socrates.[28]

The instant of nature in which Socrates exists cannot be an accident extrinsic to Socrates, any more than it can be an accident

25. C.18, (OPh II, 328).
26. *Ibid.*; cf. *Ord.* I, d.9, q.3, (OTh III, 304).
27. *Expos. Praedicam.*, c.18, (OPh II, 328).
28. *Ibid.*

that belongs to Socrates; for while accidents inhere in the substances whose accidents they are, substances do not exist *in* any accidents. Of course, there is a sense in which one substance can exist in another extrinsic to it—viz., the way water exists in a vase. But Ockham takes it for granted that Scotus did not mean that Socrates exists in an instant of nature in any way analogous to that in which water exists in a vase, and concludes that the instant of nature in which Socrates exists cannot be a substance extrinsic to Socrates either. Since there are no things with which instants of nature could be identified, Ockham concludes, Scotus's attempt to relativize predication to instants of nature is illegitimate.

Scotus would dismiss Ockham's criticism as doubly irrelevant, however. For one thing, he never claims that instants of nature are things (*res*) either really or formally distinct from (other) substances and accidents. Second, to justify the relativization of predicates to instants of nature it is not necessary for 'instant' to be an absolute term that signifies things really or formally distinct from those located in those instants. It is enough if 'instant of nature' is a connotative term that signifies whatever other things there are and connotes that those things genuinely exhibit a certain natural order. Alternatively, Scotus could say that the prepositional phrase is an opaque context in which 'instant' does not function as a noun at all, but the whole phrase does duty for an adverb and signifies how things are. That things do exhibit such a natural order is something that Ockham himself concedes.

Indeed, if Ockham's reasoning were cogent, it would deny him the right to relativize predications to instants of time, just as much Scotus the prerogative to relativize them to instants of nature. For Ockham argues vigorously that 'instant' is not an absolute term when applied to the temporal order either (see Part Four, chapter 20 above). Yet Ockham begins his discourse against instants of nature in his *Categories*-commentary with the following announcement:

> ...it should be noted that when something is prior in some of the ways set out here, even though it is true to say that the one is prior to the

> other, nevertheless, it is not true to say that it exists before the others, or that it exists in any instant of nature or sign in which the posterior does not exist, or that it exists or existed in something prior in which the posterior does not exist. The only exception is when something is prior to another in time. For in that case, it is true to say that it existed earlier in some instant or time in which the posterior did not exist. But this should not be said in other cases...[29]

And he continually relativizes his own predications to instants of time without further apology (e.g., when he endorses the will's so-called evident capacity for opposites in succession in *Predestination, God's Foreknowledge, and Future Contingents*, q.3, (OPh II, 535–36)). What difference does Ockham see between the temporal order and the natural order that would justify his practice?

(4.1.2) Ockham explains his serious objection to Scotus's instants of nature in *Ordinatio* I, d.9, q.3, where he insists that "it is proper to say that the prior exists *in something prior* in which the posterior did not exist,"[30] only where there is some measure of priority and posteriority. And Ockham has argued that a measure is always really distinct from what is measured. Thus, he writes that

> some things are said to be ordered because some ordered extrinsic things correspond to them in such a way that one corresponds to one and another to another.

And he adds,

> This is the way the prior and posterior with respect to time are ordered—viz., since one part of time corresponds to the prior and a different part to the posterior. Likewise, different parts of place or different places correspond to what is behind and ahead...[31]

Thus, we can say that Israel's journey to Canaan occurred in an earlier period of time than the reign of David did, because

29. C.18, (OPh II, 327–28).
30. (OTh III, 302), (italics mine).
31. *Ibid.*

Israel's journey coexisted with earlier and the Davidic reign with later revolutions of the sun. The prepositional phrase 'in an earlier period of time' signifies that the events are related to the successive revolutions in those ways. Likewise, for place. Unless there is a measure really distinct from what is measured, then there is no such correspondence for the prepositional phrase 'in something prior' to signify. But Scotus cannot allow for any such really distinct measure of natural priority and posteriority where God's thoughts are concerned. For Scotus will want to say that the natural priority of God's thought of Himself over that of His thought of others obtains whether or not anything other than God exists, so that the measure of natural priority cannot be a creature and so cannot be anything extrinsic to and really distinct from the divine nature. Similarly, God is genuinely prior to creatures with respect to honor, perfection, and causality. But since there is no extrinsic measure in these cases either, it is inappropriate to speak of God's existing in a prior instant of honor, perfection, or causality either.[32]

(4.2) Second, Ockham attacks Scotus's contention that God's understanding of some things is naturally prior to His understanding of others. For Ockham asks on what basis the ordering of priority and posteriority could be made? He can think of only two possibilities: either on the basis of some order between different acts of understanding, or of some order among the various objects. The first cannot be granted, because God understands or thinks of Himself and creatures by one and the same act of understanding. If there were really distinct acts of understanding, then God would not be simple—contrary to (T5). Nor, Ockham contends, would it be right to say that the act by which God thinks of Himself and that by which He thinks of a stone are really the same but formally distinct. For if we can understand a whole proposition and hence many terms—e.g., really distinct things such as Socrates and his whiteness[33]—by a single act of understanding, then God can surely do the same.

32. *Ibid.*, (OTh III, 303–304); *Expos. Praedicam.*, c.18, (OPh II, 328).
33. *Ord.* I, d.35, q.4, (OTh IV, 469); cf. Part Three, chapter 13 above.

Ockham anticipates a Scotistic reply that the act by which we think of Socrates is likewise really the same as but formally distinct from that by which we think of his whiteness in such cases. But Ockham thinks he has shown Scotus's formal distinction to be untenable (see Part One, chapter 2, section 6 above). Finally, it would not help to say that there is a distinction of reason among such acts. For consideration in one way or another by the intellect does nothing to make one thing prior or posterior to another.[34] Where God's understanding is concerned, God and creatures are understood by altogether the same act.

Ockham does not deny that there are various orderings of priority and posteriority among the objects of God's thought. For example, God is naturally prior to creatures in that the latter depend on Him for their existence but He in no way depends on them for His existence. Likewise, God is prior to creatures in perfection. But Ockham insists that such priorities give us as much reason to say that God understands Himself *at a time before* He understands a stone, as to say that His understanding of Himself is naturally prior to His understanding of a stone. Since Scotus wishes to deny the former, he should by the same token reject the latter.[35]

Scotus would not accept Ockham's reasoning. For all of the arguments that God is immutable and timeless would force us to deny that God understands Himself at a time before He understands a stone; but they would not prevent us from maintaining that His understanding of Himself is naturally prior to His understanding of a stone. Nevertheless, Ockham's query is not pointless. For it is far from clear why the fact that God is naturally prior to creatures or prior to them in perfection, should have the consequence that God's understanding of Himself is naturally prior to His understanding of creatures. On the imitability theory of how God understands creatures, God's understanding of Himself is prior in the order of explanation to His understanding of imitability relations and hence to His

34. *Ord.* I, d.35, q.4, (OTh IV, 469).
35. *Ibid.*, (OTh IV, 468–69).

understanding of creatures. But Scotus has rejected the notion that God's understanding of Himself mediates His understanding of creatures and insisted that He understands creatures by a direct act. If so, what reason does Scotus have left for insisting that God's understanding of Himself is prior to His understanding of creatures?

(4.3) Finally, Ockham focuses on Scotus's claim that *in God* there are eternal relations to the things He eternally conceives of,[36] and asks what sort of relations these could be. They cannot be real relations that are really or formally distinct from God, since Scotus himself admits that there are not real relations in God to creatures.[37] On the other hand, if such relations are not really in God, the only other way that they could exist in God would be as objects of His thoughts—say as the conception of a creature as a certain possible imitation of God. In that case, however, these relations would not exist in God at an instant of nature, viz., the third, prior to that at which they are thought of, viz., the fourth, as Scotus says they do. For what has intelligible existence is known at every moment at which it has intelligible existence.[38]

## 5. OCKHAM'S ARGUMENT THAT THE DIVINE IDEAS ARE THE CREATURES THEMSELVES

Ockham's development of the doctrine of divine ideas bears the clear stamp of his controversial opinions in metaphysics and epistemology. Thus, he maintains that from eternity "God Himself, or the divine essence, is a single intuitive cognition, as much of Himself as of all things creatable and uncreatable..."[39] God's cognition likewise extends to all propositions, whether

36. *Ibid.*, (OTh IV, 467–68).

37. *Ibid.*, (OTh IV, 469–470); cf. Scotus, *Lectura* I, d.30, q.1–2, n.55–56, (Vaticana XVII, 414–15), and *Ord.* I, d.30, q.1–2, n.49–50, (Vaticana VI, 192).

38. *Ord.* I, d.35, q.4, (OTh IV, 470).

39. *Ibid.*, d.38, q.1, (OTh IV, 585), trans. in *Predestination, God's Foreknowledge, and Future Contingents*, Appendix I, 90.

they are necessary, contingent, false, or impossible.[40] Further, since God thus understands creatures from eternity we can say that God and creatures are eternally related. But Ockham has argued that—with some exceptions irrelevant here—there are no relative beings that inhere in the relata by virtue of which they are related. And this is true, whether the relata are real things (*res*), beings of reason, or a real thing and a being of reason (see Part One, chapter 7 above). Thus, there is no relative being that exists in God or in creatures by virtue of which God understands creatures or creatures are understood by God, or by virtue of which God can be imperfectly imitated by creatures or creatures imperfectly imitate or resemble God. It is just that both God and creatures are eternally apt to be signified by the terms 'understands' or 'is understood', or by the terms 'imitable' or 'similar'. Whether we label these relations of understanding and imitability or similarity "real relations" or "relations of reason" is simply a verbal question of how a philosopher wants to use the terms 'real relation' and 'relation of reason', respectively. For some objects of God's thought never exist in reality, and creatures do not exist in reality from eternity.[41]

40. *De praedest.*, q.1, septima suppositio, (OPh II, 518).

41. See Part One, chapter 7, section 8 above. Ockham makes this point in *Ordinatio* I, d.35, q.4, (OTh IV, 470–77), by setting out a complicated array of distinctions. (a) 'To be related' can be used two ways: (i) of everything that is of a sort that can be expressed by a relative name; (ii) only of a thing such that a sign actually denotes that something relative inheres in it (OTh IV, 474). (b) 'Relation of reason' can be taken two ways: (i) one way for the spoken word or concept that signifies some thing or things; and (ii) for the significata themselves (OTh IV, 470). (c) 'Relation of reason' considered as (bi) can be taken two ways: (i) broadly for those names such that a thing cannot be of the sort that the relative name denotes without an act or power of reasoning—e.g., 'subject', 'predicate', 'intelligible'; and (ii) strictly for those names such that a thing is not of the sort that the name expresses without a concurring act of will or intellect; and when no such act occurs the extremes could remain and neither be of the sort denoted by such relative names—e.g., 'price', 'sign', 'property' (OTh IV, 470, 472–73, 476). (d) 'Real relation' is taken two ways: (i) strictly in such a way that there is a real relation between $x$ and $y$ only if both $x$ and $y$ really exist; and (ii) broadly, there is

With what, then, does Ockham identify divine ideas? Recall that for Augustine the ideas are not only (T4) that by thinking of which God conceives of creatures, but also (T2) what God thinks of in producing creatures and the thought of which makes His creative activity rational. Focussing on the latter function of ideas, Ockham offers a descriptive definition[42] of ideas as "something cognized by an effective intellectual principle, looking to which something active can produce something in real existence."[43] So defined, 'idea' is a connotative term, or on some terminology, a relative term, since every idea is an idea *of* something. Ockham then argues by a process of elimination that ideas are not the divine essence, nor a relation of reason, but creatures themselves.

(a) Divine ideas cannot be identified with the divine essence because of the Simplicity Problem. For even though the divine

a real relation between $x$ and $y$ if and only if it is impossible that the relation really exists and be otherwise as they are and not be so related (OTh IV, 476).

Ockham maintains that on (bi) and (ai) God is related to creatures from eternity by understanding them, which is a relation of reason according to (ci) and a real relation according to (cii) and (dii). Since God is conceptually omniscient and therefore thinks signs that signify Him insofar as He is related to creatures by understanding them, then even on (aii) God was related from eternity to creatures by a relation of understanding, which was a relation of reason according to (ci) and a real relation by (cii) and (dii). God was not related to creatures from eternity by a real relation in sense (di) because creatures did not really exist from eternity. Saying the relation is real according to (dii) does not imply that there is any real thing distinct from absolute things inhering in God. Again, saying that it is a relation of reason according to (ai) does not imply the existence of anything distinct from God, nor does His being related in sense (aii) imply the real existence of anything other than God, since the mental term is just an object of God's thought (OTh IV, 471–73, 476–77). Such real relations of understanding would not, on Ockham's view, be anything (*res*) really distinct from the relata (see Part One, chapter 7, section 7).

42. *Summa logicae* I, c.28, (OPh I, 90): "Moreover, a descriptive definition is a mixture of substantial and accidental terms. For example, 'Man is a rational animal that can walk erectly and that has broad nails'..." This contrasts with a definition such as 'Man is a rational animal' that contains no accidental terms.

43. *Ord.* I, d.35, q.5, (OTh IV, 486).

essence is something by looking to which an effective intellectual principle could produce something in real existence, the term 'idea' is traditionally used in such a way that (T6) is true;

> ...I maintain that this description does not pertain to the divine essence itself...because according to everyone, there are many ideas. Thus, Augustine says in the above cited passage that 'A man is produced by one notion (*ratio*) and a horse by another', and he takes 'notion' (*ratio*) for an idea. But the divine essence is unique and cannot be multiplied in any way. Therefore, it is not an idea...[44]

Ideas could not be really or subjectively in the divine essence, because "then there would be many there subjectively" —which is contrary to (T5) divine simplicity.[45] Misinterpreting Augustine, Ockham even invokes Plato as a witness against those who would identify ideas with the divine essence:

> ...Plato, whose opinion the Blessed Augustine holds, said that the ideas of man was a man or the quiddity of man or the universal man. The Philosopher also attributes the same opinion to Plato: that he supposes ideas to be certain really distinct things, just as the produced things are distinct in species. Therefore, it was his intention, not that the divine essence would be an idea, but that some other things known by God which were exemplars and to which God would look in producing, were ideas...[46]

Christian Platonists had moved to deny that the ideas existed independently of God's mind, partly to avoid compromising (T1). Ockham now chides them, saying that they should have followed Plato in not identifying ideas with the divine essence, because such an identification is inconsistent with (T5) divine simplicity. Ockham has already argued against Henry's explanation that there could be many ideas that are really the same as but distinct in reason from the divine essence.

(b) Ockham argues further that no relation fits the above

44. *Ibid.*, (OTh IV, 487); cf. the argument in opposition at d.35, q.5, (OTh IV, 479) and (OTh IV, 484–85).

45. *Ibid.*, (OTh IV, 488).

46. *Ibid.*, (OTh IV, 489–490).

description. If ideas were real relations really or formally distinct from substances and qualities and existing in God, then they would have to be identified with the relations that constitute the persons of the Trinity (their properties of Paternity, Filiation, and Spiration)—which no one would do. Nor does Ockham see how they could be relations of reason. For it strikes him as impossible that beings of reason, which can have only objective existence and are not the kind of being that could have real existence, should be exemplars of creatures that can really exist. A fortiori, relations of reason that are not distinct from such entities cannot be God's models in producing real creatures either.[47]

(c) Ockham draws his own conclusion,

> ...that creatures themselves are ideas. First, because every part of the above stated description applies to creatures. For a creature itself is cognized by an active intellect, and God looks to the creature itself in order to produce rationally. For to whatever extent God cognizes His own essence, if He did not cognize what is producible by Him, He would produce in ignorance and would not produce rationally and consequently not by ideas. Therefore, He truly looks to the creature and by looking to the creature He can produce it.[48]

It is true that creatures fit the description of 'idea' given by Ockham: thinking of them would render God's creative activity rational. Indeed, as Ockham says, thinking of them would make creation rational, even if, *per impossibile*, God thought of nothing else. Nevertheless, Ockham's conclusion seems premature, since creatures do not seem to be the only things that fit the description. Would not God's creation be rational if He thought of the universal humanity and the universal equinity in creating a man and a horse, respectively? Yet, on Ockham's earlier view, such universals can have only objective existence and are not the kind of thing that can have real existence. If so, it seems that what cannot exist in reality might serve as exemplars for things that can—contrary to what Ockham assumes

47. *Ibid.*, (OTh IV, 488).
48. *Ibid.*

in arguing that relations of reason cannot be ideas. If God thought of the relations of similarity or imitability that He eternally bears to creatures, would not that make His creative activity rational, too?

I think that Ockham would make a twofold reply to these queries. (d) The first rests on his assumption that God's creative activity will be rational, only if God knows what He is producing and produces it, as opposed to anything else, on purpose. If in producing Socrates, God thinks only of the universal humanity, it will be true that He fully intends to produce a man as opposed to a horse. But it is a necessary condition of His intending to produce Socrates as opposed to Plato that He think of Socrates in particular. This He cannot do by thinking of the universal humanity alone. Further, since there is nothing in Ockham's philosophy to suggest that he would not reject all nontrivial versions of the Identity of Indiscernibles (see Part One, chapters 2–4 above), he would doubtless deny that God could think of each possible particular distinctly by thinking of any conjunction of universals either. Likewise, since the divine essence is somehow similar to everything other than itself, thinking of the divine essence or of relations of imitability might render creation partially rational. But, as Ockham says, "to whatever extent God cognized His own essence, if He did not cognize what is producible by Him," He would produce in partial ignorance and His activity would not be fully rational.[49]

(e) A second reason for Ockham's refusal to identify the divine ideas with universals, similarity relations, or the divine essence itself, can be found in Ockham's desire to be a direct realist in divine as well as human epistemology (see Part Three, chapter 13 above). While Ockham focused on (T2) in offering his descriptive definition of 'idea', he likewise endorses (T4). After all, why would God, in producing $x$, look to anything other than that by which He gets His most complete conception of $x$? But Ockham does not want to say that God gets His most complete knowledge of creatures mediately, by thinking of universals, similarity relations, or the divine essence. Rather

49. *Ibid.*

God has His perfect knowledge of creatures by thinking immediately of the creatures themselves. At bottom, it is Ockham's insistence that God's awareness of creatures is immediate—and not merely the requirements of his descriptive definition or the arguments in (a) and (b) itself—that motivates his conclusion that the divine ideas are the creatures themselves.

## 6. THE ONTOLOGICAL STATUS OF DIVINE IDEAS ACCORDING TO OCKHAM: THE SIMPLICITY PROBLEM REVIVED

If Ockham's claim that divine ideas are the creatures themselves solves the Representationalist Problem and preserves (T5) divine simplicity, it seems to do so by embracing the other horn of the dilemma and assuming an infinite plurality distinct from and existing independently of the divine essence—which is contrary to (T1). Ockham acknowledges that the Simplicity Problem could come back to haunt him, when he raises the following objection against his view in *Ordinatio* I, d.35, q.5, (OTh IV, 494–95):

> ...What is eternal is really in God, since otherwise something other than God would be eternal. But ideas are eternal according to the Blessed Augustine, who says in *Eighty-Three Questions*, q.46 that 'Ideas are certain notions of form or stable and immutable notions of things, which themselves are not formed as through this eternally and thus always exist in the same way...' From these citations it is clear that ideas are the notions of forms and that they really exist and exist eternally—all of which can pertain only to those things that really exist in God.

In effect, Ockham replies that the conjunction of (T3)–(T6) would run afoul of (T1), only if the citations had stipulated that the ideas *really* existed from eternity. Misinterpreting Augustine again, Ockham insists that they make no such requirement:

> To the citations from Augustine, I maintain that 'eternal' is taken two ways: one way, properly, for what truly, properly, and really ac-

> tually exists [in God] eternally; another way, for what is eternally and immutably understood or cognized, where the latter is an improper or extended use of 'eternal'. I maintain that Ideas are not eternal in the first way, but God alone is eternal this way. Ideas are eternal the second way—i.e., they are eternally and immutably cognized. The Blessed Augustine and the other saints and philosophers speak this way when they say that the ideas are eternal, immortal, and unproducible—i.e., they are eternally, immortally, and immutably understood; nor can the understanding of them be produced...[50]

Again, he says, "...when Augustine takes ideas for those things that truly and eternally are, he means to take them for things that are truly and eternally understood."[51] And again, "from eternity a thing was an idea, but it was not actually existing from eternity."[52]

(6.1) So long as Ockham held his objective-existence theory of the ontological status of concepts, he evidently understood (T1) to claim only that there are no *real* things other than God that exist necessarily; and (T5), that the really existent divine essence has no parts. The objective-existence theory assigns real existence to God's act of thought—which Ockham claims is identical with the divine essence[53]—and only objective existence to what it thinks of.[54] Since, by (T3), God is essentially

50. *Ibid.*, (OTh IV, 498).
51. *Ibid.*, (OTh IV, 500).
52. *Ibid.*, (OTh IV, 501).
53. *Ibid.*, (OTh IV, 500); cf. (OTh IV, 493–94, 497).
54. *Ord.* I, d.2, q.8, (OTh II, 274). Ockham also seems to be speaking from the point of view of the objective-existence theory in *Ordinatio* I, d.35, q.5, when he says at (OTh IV, 493) that "the ideas do not exist in God subjectively and really, but only exist in Him objectively as some things cognized by Him. For the ideas are the very things (*res*) that are producible by God," and again at (OTh IV, 488 and 497) that "the ideas do not exist in God really and subjectively but only objectively." Such a view about divine ideas was suggested in Henry of Harclay's early question on that subject (edited by Armand Maurer, *Medieval Studies* XXIII (1961): 163–193, at 166–172), and Ockham was demonstrably influenced by Harclay in formulating his own position. On the other hand, Ockham spends the whole of the next question, *Ordinatio* I, d.36, q.1, attacking various versions of the view that creatures have a diminished mode of existence from eternity as a result of being thought of by God from eternity.

omniscient, He necessarily and eternally conceives of each and every creature, and hence the infinite plurality of ideas has objective existence necessarily and eternally. But it does not follow from this that anything exists in reality necessarily, eternally, and independently of the divine essence. Indeed, since objective existence is mind-dependent existence, the ideas depend for their necessary objective existence on the divine act of thought.

By the time he wrote *Quodlibeta* IV, q.35, however, Ockham had come to see (T1) as asserting that nothing other than God has necessary existence of any kind—real or unreal. And given that understanding, he argues that (T1) is incompatible with his application of the objective-existence theory to God's thought. Using the label '*ficta*' to refer to objectively existent entities, he writes that

> understanding other things, He would understand such fictitious beings (*ficta*). Thus, from eternity there existed a coordinate of as many fictitious beings as there can be different intelligible things, whose existence was so necessary that God could not destroy them—which seems false.[55]

If God is essentially omniscient, and if objects of thought have objective existence, God will no more be able to bring it about that the objects of His thought do not have objective existence than He will be able to alter his own nature. Thus, even if their objective existence is dependent upon God's thought, it is independent of His will—which Ockham had come to regard as too close to Platonism for comfort! And we have already seen in Part One, chapter 3, how Ockham mistakenly thought that the objective-existence theory would force a representationalism in epistemology as well.

(6.2) According to Ockham's mental-act theory (see Part One, chapters 3 and 4 above) what makes a thought an act of thinking of $x$ is not that it is directed towards the objectively existent $x$, but rather that the really existent thought has the property of

55. (OTh IX, 473.)

being of-$x$. Thus, in order for God to understand creatures from eternity, it is not necessary that the creatures have any kind of existence (*esse*) from eternity at all. And in *Ordinatio* I, d.36, q.1, where Ockham seems to presuppose his mental-act theory, he insists that just as "the color in the wall does not acquire anything—either diminished or perfect—from the fact that I see color in the wall," so "a stone does not acquire anything—either diminished or perfect—from the fact that God understands a creature or a stone."[56] Rather when God understood a creature from eternity, "the creature did not have any existence then. Nevertheless, it was truly understood then."[57] And in *Ordinatio* I, d.43, q.2, Ockham contends that prior to its real existence a creature "is nothing although it is understood."[58] In order for God to understand creatures from eternity, it is necessary only that His act of thought have the property of being of-such-and-such-creatures.

Ockham's later analysis of thought thus seems to offer a startling solution to both the Simplicity Problem and the Representationalist Problem. For it apparently removes his position as far from Platonism as possible, since it entails that prior to the real existence of creatures, ideas were nothing at all; and if they are nothing, they surely do not compromise divine simplicity or come between God's act of thought and what He is thinking of.

Nevertheless, we are not entitled to be confident in this conclusion without first examining what Ockham means when he says that creatures are *nothing* prior to their creation. In *Ordinatio* I, d.36, q.1, Ockham explains that the term 'nothing' can be taken three ways: (i) first, it can be taken syncategorematically as a negative universal sign that includes the term distributed—viz., 'being'. Alternatively, 'nothing' can be taken categorematically either (ii) insofar as it "signifies what does not really exist or have any real existence," or (iii) insofar as it "is taken for what lacks not only real existence, but also

56. (OTh IV, 550).
57. (OTh IV, 558).
58. (OTh IV, 646).

is such that real existence is incompatible with it.''[59] Thus, Ockham says, impossibles such as chimeras were nothing from eternity the third way, but unactualized possibles such as human beings and creatures generally were nothing from eternity, not in the third way but in the second way. (Where 'being' is taken for whatever can exist in reality, creatures were not nothing from eternity the first way either).[60] Yet, the claim that unactualized possibles are nothing in the sense that they do not really exist does little to reveal Ockham's later opinion about the ontological status of unactualized possibles.[61] Turning to the *Summa logicae*, which everywhere assumes that concepts are really existent mental qualities, we find that Ockham explicitly retains the claim that terms can supposit or stand for possibles in a proposition, whether or not the possibles actually exist. Specifically, he lays down the rule that in propositions of possibility, a term can supposit either for those entities that exist now or for those entities that can exist.[62] But even this contention is compatible with either a Possibilist position—according to which unactualized possibles have some ontological status independently both of real things and of beings thought of—or with Soft-Actualism, which reduces unactualized possibles to really existent entities (see Part Two, chapter 12 and Part Four, chapter 20). Nevertheless, if, after adopting the mental-act theory, Ockham was inclined to ridicule the objective-existence theory for positing ''another little world of objectively existent entities,''[63] he should have found unreduced, unactualized possibles even stranger. And he would have had the same theological reason to reject Possibilism as he had to abandon the objective-existence theory. For assuming that

59. (OTh IV, 547).

60. *Ibid.*

61. It is noteworthy that Ockham does not use 'nothing' in any of these senses when he argues that since thoughts of impossibles and unactualized possibles cannot be thoughts of nothing, impossibles and unactualized possibles must have objective existence. See Part One, chapter 3, section 3 above.

62. I, c.72, (OPh I, 215–16); cf. c.33, (OPh I, 95–96).

63. *Quodl.* III, q.4, (OTh IX, 218–19).

possibles are necessarily possible, it would follow that possibles have this "occult" status eternally and necessarily and independently of both the divine will and the divine intellect. Confronted with this difficulty, Ockham would have probably opted for a Soft-Actualism that reduces unactualized possibles to the really existent divine act of thinking of them. If feasible, such a reduction would avoid both the Simplicity Problem and the Representationalist Problem. That it cannot be successfully carried out was shown in Part One, chapter 4, where we saw how Ockham's analysis of natural signification on the mental-act theory fails to show how God's single act of thought could be at once an act of thinking of every actual and possible creature distinctly, as well as of Himself.

## 7 POSTSCRIPT: WHAT ARE THERE IDEAS OF?

We saw above that Ockham was driven to identify ideas with creatures themselves by focussing on their role as (T4), that by thinking of which God conceives of things other than Himself. By contrast, it is by centering on his descriptive definition of 'idea' (inspired by (T2)) that he concludes that there are ideas only of things that can be produced. Aquinas concurs with this latter judgment and traces it back to Plato,[64] while Henry of Ghent bases his agreement on the alleged testimony of Augustine.[65] Since these philosophers disagree among themselves about what is producible, however, they do not always concur about what there are ideas of.

Ockham maintains that just as there are ideas of producibles only, so "there are distinct ideas of everything producible, just as the things themselves are distinct from one another."[66]

64. *Summa theologiae* I, q.15, a.3.

65. *Quodlibeta* VII, q.1–2, (Venice, 1613, T.I, fol.386r–v, 388v). Both such attributions seem implausible. Augustine in *On the Free Choice of Will* clearly thinks that there are ideas that make mathematical propositions true; but mathematical objects are not producible, according to Augustine.

66. *Ord.* I, d.35, q.5, (OTh IV, 493).

Similarly, "there are distinct ideas of matter and form and of essential parts generally and of all integral parts," since they are really distinct from each other and hence capable of being produced separately, on Ockham's view. Aquinas does not agree that there are distinct ideas of matter and form, because he, unlike Ockham, thinks it is impossible that God should produce matter without form; rather matter is producible only as part of a composite of matter and form; and there is an idea of matter only insofar as there is an idea of composites.[67] Henry of Ghent rejects the possibility of separate production as a criterion for there being distinct divine ideas. Thus, while he agrees with Aquinas that matter cannot exist independently of a composite, he argues that there is nevertheless a distinct idea of matter.[68]

Since Ockham thinks that universals such as humanity in general or equinity in general are not producible, since they cannot exist in reality, he concludes "that ideas are primarily of particulars and not of species, because only particulars themselves are producible outside the mind." Again, "it follows that there are no ideas of genus and differentia and of other universals, unless it is assumed that universals are certain things that exist in the mind subjectively and are only common to extramental things by predication."[69] The last remark refers to the fact that on Ockham's mental-act theory, universals are primarily concepts that are really existent acts of thought and hence are producible, particular mental qualities. While Ockham does seem to imply that God thinks of genera and species as well as particulars,[70] the genera and species do not count as ideas.

67. *Summa theologiae* I, q.15, a.3, ad 3; cf. Part Four, chapter 16 above.

68. *Quodl.* VII, q.1–2, fol.388v.

69. *Ord.* I, d.35, q.5, (OTh IV, 493).

70. Contrary to Gilson's claim in *The Unity of Philosophical Experience*, (New York 1937), chap.3, 73–74. In *Ordinatio* I, d.35, q.5, (OTh IV, 505), when he says that God "not only has a cognition of universal the way a created artisan does of things to be made by him, but also has a distinct and particular cognition of any particular to be made..." If God cognizes not only universals, but also particulars, then He cognizes at least universals. We have seen in section 5 above why universals are not the models to which God looks in producing creatures. Using the same criterion for what ideas are,

Again, Ockham wants to say that only things (*res*) are producible—i.e., capable of being brought into existence after nonexistence. The absence of something is not producible. Consequently, "it follows that there are no ideas of negations, privations, evil, guilt, etc. that are not things distinct from other things." Aquinas agrees here, too, that

> evil is cognized by God, not through a notion (*ratio*) proper to it but through the notion of good. Therefore, there is no idea of evil in God, insofar as an idea is an exemplar or notion.[71]

Finally, Ockham concludes that "God has infinitely many ideas, just as there are infinitely many things producible by Him." Aquinas would no doubt agree, since he concurs that there are ideas of particulars.[72] Henry of Ghent concludes that whether or not God has infinitely many proper ideas depends on whether there are infinitely many possible species—a question on which he does not commit himself.[73]

Aquinas concludes that there is no idea of genus other than the idea of species, "since genus is never produced except in some species," although he does seem willing to suppose that species are produced in real existence, as are accidents (*Summa theologiae* I, q.15, a.3, ad 4). Henry of Ghent agrees with this judgment and goes even further insisting that there are proper ideas of species only. According to Henry, God conceives of everything other than species by conceiving of species (*Quodlibeta* II, q.1, fol.46v; VII, q.1–2, fol.386v–387r).

71. *Summa theologiae* I, q.15, a.3, ad 1.
72. *Ibid.*, a.3, ad 4.
73. *Quodlibeta* V, q.3, fol.156v.

# 25

# Divine Ideas, Divine Power, and the Ground of Possibility

Are things possible because God has the power to make them, or does God have the power to make them because they are possible? Similarly, are things impossible because God lacks the power to make them, or does He lack the power to make them because they are impossible? So asked medieval philosophers, and historians of philosophy have tried to find in their discussions answers to the question, what is the "source" or "ultimate ground" of possibility and impossibility?[1] A range of answers seem to have been offered to this latter question. We can imagine Augustine and Anselm finding the ultimate ground of possibility, just as the ultimate ground of necessity, in divine ideas. Historians have seen Aquinas as locating its source in the divine essence.[2] On the other hand, they have attributed to Ockham the view that the ultimate ground of possibility lies in God's power, while the ultimate ground of impossibility lies in His lack of power—a position which they reject as having obvious sceptical consequences.[3]

We cannot discuss this question any further, however, without clarifying what it is. Confusion may arise in the first place over the notion of possibility.[4] Sometimes when we

1. In his article, "Ockham and the Textbooks," first published in "Wilhelm Ockham (1349–1949): Aufsätze zu Seiner Philosophie and Theologie," *Franziskanische Studien* XXXII (1950): 70–96, Allan Wolter challenges thirteen textbooks, written mostly in the first half of the twentieth century and widely used at the time he was writing, with respect to their interpretations of Ockham on this issue. See especially 83–84.

2. *Ibid.*, 90.

3. *Ibid.*, 83–84.

4. As Wolter notes, *ibid.*, 85–87.

ask, "is it possible?" we intend to ask whether something has the power to make it or bring it about. Very often, however, philosophers are asking a different question—viz., "is it logically possible?" or "does a correct description or concept of it involve contradictory properties?" Historians have labelled the former "extrinsic possibility," since it is possibility a thing has in relation to another, in particular, in relation to another's power; and the latter, "intrinsic possibility." In *Ordinatio* I, d.43, q.2, Ockham interprets our initial questions—viz.,

(A) Are things possible (impossible) because God has (lacks) the power to make them; or does God have (lack) the power to make them, because they are possible (impossible)?

—as a question about extrinsic possibility and impossibility, about the relation between the correlative predicates 'able to be made' and 'able to make', and 'unable to be made' and 'unable to make', and not about logical possibility at all.[5] Nevertheless, the issues about logical possibility had been connected with the notion of power to make, already in Avicenna's discussion. Since there was general agreement that God's ability to make things does extend to everything logically possible, it would be natural to regard (A) as relevant to the issue of a thing's logical possibility, and Scotus does so regard it in his *Ordinatio* I, d.43, q.u.

Even where the issue is seen to be one about logical possibility, it is not entirely clear what one is asking when one inquires about the source or ultimate ground of it. At least two questions can be distinguished.

(B) Assuming a correspondence theory of truth, what is there that makes propositions of the form "'$p$' is possible" or 'It is possible that $p$' true, and what sort of thing is it?

(B) parallels the question that Augustine raises about the im-

5. As Wolter rightly points out, *op. cit.*, 85.

mutable truths of mathematics and ethics in *On the Free Choice of Will*, Book II. According to Allan Wolter, it is also the question that Aquinas and Ockham answer; both allegedly think that such possibility is a predicate of propositions rather than of things.[6] Again, we might ask,

(C) What, in the last analysis, makes possibles possible rather than impossible?

Avicenna, Henry of Ghent, and Duns Scotus seem to answer this question. But Henry of Ghent and Duns Scotus provide answers to (B) as well. Ockham seems to give an answer to (C) himself, in *Ordinatio* I, d.43, q.2.[7] Questions (B) and (C) have continued to engage philosophical interest and are a focus of lively contemporary debate. (A) is of interest insofar as it is a way of raising (B) or (C); but, as interpreted by Ockham, as a question about the relation of 'able to be made' and 'able to make', 'unable to be made' and 'unable to make', it is of hardly any interest.

In this chapter, I should like to pick up this debate about the ultimate ground of possibility with Avicenna, and trace it through Henry of Ghent, Duns Scotus, and Ockham. My primary interest will be in their answers to (B) and (C). But, since for historical reasons answers to (B) and (C) appear in discussions of (A), I shall consider their answers to (A) as well.

## 1. AVICENNA'S DISCUSSION

In his *Compendium of Metaphysics*, Avicenna considers and rejects a generalized version of the view attributed to Ockham: viz., that the possibility of essences and of particulars consists in the power or ability of something to produce them. Given the ambiguous use of 'possibility' noted above, it is not surprising that someone should make this suggestion. But no matter how understandable it is, Avicenna rejects the position as altogether

6. *Op. cit.*, 88–89.
7. (OTh IV, 649–650).

unacceptable. His principal counter-argument is that if it were true, we should never know that a thing was possible unless it existed. For if it were true, we should not be able to determine whether a thing was possible simply by considering its essence, but rather would have to consider its relation to other active powers. In the case of nonexistent things, if there were a doubt as to their impossibility, there would be no way to settle the question. For so long as an agent did not make a thing of a certain kind, we could not be certain whether or not it had the power to do so. Avicenna concludes that we must not say that the possibility of a thing depends on anything extrinsic to that thing, but rather that it is possible *of itself*. Thus, considering things that begin to exist, he remarks,

> It is necessary with respect to everything that came into existence that before it came into existence, it was in itself possibly existent. For if it had not been possibly existent in itself, it never would exist at all. Moreover, the possibility of its existence does not consist in the fact that an agent could produce it or that an agent has power over it. Indeed, an agent would scarcely have power over it, if the thing itself were not possible in itself...[8]

In Avicenna's opinion, the ability of someone to make a thing is not what accounts for its possibility, but rather the fact that a being is possible of itself, is a prior necessary condition of anything's having the ability to make it.

Given that Avicenna had connected the discussion of the ground of possibility with power, question (A) above became a standard topic for discussion.

## 2. HENRY OF GHENT'S POSITION

Henry of Ghent debates (A) in his *Quodlibetal Questions*. And Scotus and Ockham both point out that he offers two con-

8. Book I, Part 2, tractatus 6, (Rome, 1926), 54–56. I have translated from the Latin text quoted by Timothy J. Cronin, *Objective Being in Descartes and in Suarez*, (Rome, 1966), Appendix II, 173–74.

flicting answers to it.[9] Henry maintains that God's ability to make the possible is prior to the possible's ability to be made, but the impossible's inability to be made is prior to God's inability to make it. His reason is that where a term's signifying a relation of God to creatures is concerned, if the term applying to God signifies something absolutely noble, it pertains to God prior to its correlative's pertaining to creatures. But if the term that applies to God does not signify something absolutely noble, the correlative applies to creatures prior to that term's applying to God. In *Quodlibeta* VIII, q.3, written two years later, Henry expresses the contrary view "that the ability to produce creatures pertains to God prior to a passive power with respect to God pertaining to a creature. Therefore, in the same way, the inability to make the impossible pertains to God prior to the impossibility of being produced by God pertaining to creatures."[10] This second position is the one historians of philosophy have attributed to Ockham. In Scotus's opinion it is the less probable of the two,[11] although he thinks that both are mistaken.[12] In *Quodlibeta* V, q.3, Henry offers a third opinion, not noted by either Scotus or Ockham, but more to Scotus's liking, that a thing's ability or inability to be made is prior to anything's ability or inability to make it.[13] In any case, Henry does not seem in these passages to have his eye on the question of the ultimate ground of possibility and impossibility in creatures. In the first

9. Summarized by Scotus in *Lectura* I, d.43, q.7, n.4–9, (Vaticana XVII, 530–31), and by Ockham in *Ord.* I, d.43, q.2, (OTh IV, 641–43).

10. Scotus, *Lectura* I, d.43, q.u, n.10, (Vaticana XVII, 531–32); Ockham *Ord.* I, d.43, q.2, (OTh IV, 642–43).

11. *Ord.* I, d.43, q.u, n.5, (Vaticana VI, 353–54); *Lectura* I, d.43, q.u, n.11–12, (Vaticana XVII, 532).

12. *Ord.* I, d.43, q.u, n.6–13, (Vaticana VI, 354–57).

13. *Quodlibeta* V, q.3 P, (Paris, 1518, T.I, fol.155v): "quod in omnibus quaestionibus quae tangunt potentiam activam in aliquid agendo, huiusmodi oportet tenere regulam, quod videlicet inspiciendum est ad potentiam passivam ex parte recipientis in se divinam actionem in fiendo: utrum scilicet potentiae activae in illo respondeat aliqua potentia passivam in ista, hoc est, utrum possibile sit fieri vel esse, de quo quaeritur utrum possibile sit Deum facere."

two, he is focussing instead on the nobility of what relative terms signify.

More interesting are Henry's remarks made in his discussion of divine ideas and the ontological status of essences.[14] Henry draws a distinction there between true beings, on the one hand, and fictitious beings on the other.[15] True beings are possibles, such as humanity and horsehood, whereas fictitious beings are impossibles, such as chimeras, goat-stags, and round squares.[16] Henry wants to say that God has knowledge of the former, but not of the latter.[17] Further, he thinks that God has knowledge of created essences and all possibles, whether or not they really exist, whether or not they are actual. But for a thought of $x$ to count as knowledge of $x$, on Henry's view, there must be something that is not non-being or nothing to which that thought corresponds. Hence, Henry concludes, there must be some absolute reality that true beings or possibles have that distinguishes them from fictitious beings or impossibles, whether or not they really exist.[18] And he labels this reality "*esse essentiae*," the being of an essence.[19] Because the cor-

14. Henry's views on these subjects are pieced together from his remarks in numerous places (e.g., in his *Summae quaestionum ordinariarum*, articles 21, 24, 28, and 34; and in his *Quodlibeta* III, q.9; V, q.2; VII, q.1–2; IX, q.2) discussed by Scotus in his *Lectura* I, d.36, q.u, I shall often refer to Scotus's summaries of Henry's position.

15. Quoted in Scotus, *Lectura* I, d.36, q.u, n.4, (Vaticana XVII, 462).

16. *Ibid.*, n.4, 7, and 8, (Vaticana XVII, 462–63).

17. *Ibid.*, n.18, (Vaticana XVII, 465–66); cf. Henry, *Quodlibeta* III, q.9 O, fol.61v.

18. Scotus, *Lectura* I, d.36, q.u, n.5, (Vaticana XVII, 462); cf. n.18, (Vaticana XVII, 465).

19. In *Quodlibeta* III, q.9 O, fol.61r, Henry speaks of the natures or essences of things as having *esse* in three ways, to which there corresponds a threefold true understanding: real existence (*esse natura in rebus*), existence in the mind (*esse rationis*), and *esse essentiae* which is prior to both. Again, in *Summae quaestionum ordinariarum*, a.43, q.2, he speaks of the nature animal being considered according to a threefold *esse*: viz., *quidditative esse*, real existence (*esse naturale*) and existence in the mind (*esse rationis*). In *Quodlibeta* VII, q.1–2 X, fol.256v–257r, however, he speaks of quiddity or essence as having "only a double *esse*"—one in reality in particulars and the other in the intellect—but a fourfold consideration. Timothy J. Cronin, in the

respondence of a thought to a thing that has *esse essentiae* is what makes that thought knowledge, a thing is said to have *esse essentiae* in some way prior not only to its existing in reality, but also to its existing in the mind.[20] In defense of his view, Henry argues that if possibles did not have *esse essentiae* prior to their existing in reality, then they would be non-beings or nothing. "But it is certain that the impossible is more of a non-being than the possible." Therefore, "if what is possible but not actual is nothing, the impossible will be more of a non-being than nothing!" – which Henry regards as absurd.[21]

Although Henry wants to say that all possibles have *esse essentiae* that is distinct from and prior to their real existence or existence in the mind, he will not allow that they have this status altogether independently of the divine essence. Just as the divine will is the efficient cause of an object's existing in reality, so the divine intellect is the formal or exemplar cause of natures' having *esse essentiae*.[22] Henry explains how the latter production occurs in an account of how God comes to know things other than Himself, that is otherwise very much like that of Aquinas discussed above. First God understands His own essence as it is in itself.[23] This cognition provides God with some understanding of creatures, albeit an indistinct and therefore imperfect one; just as our cognition of an image of Hercules, not as an image of Hercules, but as it is in itself, provides us with an imperfect cognition of Hercules.[24] God then

second appendix to his book *Objective Being in Descartes and in Suarez*, tries to reconcile these passages by saying that of the three modes of *esse*, only two (*esse naturale* and *esse rationis*) are existences, while the third is just an essence's being what it is in itself (179). Presumably, he takes it that Henry is using '*esse*' in a more restricted sense in *Quodlibeta* VII, q.1–2, to mean 'existence'. It is not clear what Cronin thinks the point would be of denying that *esse essentiae* is a third kind of existence. And what is of interest, of course is not whether we translate '*esse*' by 'existence' throughout, but just what sort of ontological status natures have by having *esse essentiae*.

20. *Quodlibeta* III, q.9 O, fol.61v.
21. Scotus, *Lectura* I, d.36, q.u, n.8, (Vaticana XVII, 463).
22. *Quodlibeta* IX, q.2 B, fol.345v.
23. *Ibid.*, q.2 Y, fol.344r.
24. *Ibid.*, q.2 Z, fol.344v.; cf. q.2 A, fol.345r.

cognizes Himself as imitable in numerous ways. The relations of reason thus produced are "what we call ideas."[25] In thinking of the divine essence as imitable, the divine intellect produces possibles in *esse essentiae,*[26] whereupon God apparently knows them distinctly as they are in themselves. Only what has an exemplar in the divine intellect—i.e., only what corresponds to one of the relations of imitability under which God cognizes Himself—is produced in *esse essentiae* and can really exist.[27] Further,

> ...since what has an exemplar in God, cannot not have it, whatever is certainly His essence, and is some thing, necessarily is such and cannot not be such, and necessarily has *esse essentiae* and cannot not have it...Conversely, since what does not have an exemplar in God cannot have one, whatever is not some thing in the certitude of essence, necessarily is not a thing or an essence, but is pure non-being, that is not even producible by God, since there can be an efficient cause of nothing of which there is not a formal cause.[28]

Whereas the divine will freely and contingently causes creatures to exist in reality, the divine intellect causes things to have *esse essentiae* by the necessity of the divine nature.

Thus, summarizing Henry's answers to (B) and (C), we can say that on his views what makes possibles different from impossibles is that the former have *esse essentiae* while the latter do not. The reality that makes a proposition of the form 'It is possible that *p*' true is an essence (or essences) that has (have) *esse essentiae,* in which it is (they are) produced by the divine intellect as a formal cause.

25. *Ibid.*, q.2 A, fol.344v.

26. *Ibid.*, q.2 B, fol.345v: "...A scientia enim tali [viz., knowledge of Himself as imitable] ipsa scita alia habent esse id quod sunt..." *Ibid.*, q.2 H, fol.346v: "cum scientia Dei secundum rationes ideales sit causa rerum cognitarum causando secundum rationem causae formalis, secundum praedicta id quod sunt ex se, necessario ordine causalitatis et principii et quasi quadam ordine naturae prius est ratio idealis in Deum quam sit in creatura id quod est ad se per essentiam..."

27. *Ibid.* III, q.9 O, fol.61r; q.9 S, fol.62r.

28. *Ibid.*, q.9 S, fol.62r.

## 3. SCOTUS'S CRITIQUE OF HENRY OF GHENT

Duns Scotus rejects the notion that what distinguishes possibles from impossibles is that the former have *esse essentiae*, while the latter do not. For one thing, he thinks it is at odds with the Christian doctrines that the created world had a beginning in time and that God created creatures out of nothing. For God is supposed to have had knowledge of all possibles from eternity. Hence, according to Henry's view, all possibles must have *esse essentiae* from eternity. In that case, when God produced creatures in actual existence, He did not create them out of nothing, but merely added another kind of *esse*—viz., real existence—to them.[29] God produces these essences out of nothing, according to this view, when He produces them in *esse essentiae*. But He does that eternally. Hence, it would follow that the creation is from eternity and did not have a beginning in time.[30]

As for Henry's supporting argument, that if possibles do not have, prior to their existence in reality, *esse essentiae*, then "nothing will be nothing in a greater degree than nothing is"—Scotus replies that there is a sense in which the conclusion is true. He explains that there is a certain order among negations. Sometimes we say that one thing is not another because there is an inconsistency among positive principles. This is true, for example, when we say that a man is not a donkey, or that a black thing is not white. Other times we say that one thing is not another simply because of the negation of something positive. Scotus imagines a surface that has no color at all. We would say of such a surface that it is not white. But the reason here would not lie in the fact that the surface has something positive (say black color) that is inconsistent with white color. Rather it lies in the fact that it lacks any color at all. In the same way, Scotus thinks, some non-beings—viz., impossibles—are such because their positive principles are formally inconsistent with positive being. Others—viz., nonexistent

29. Scotus, *Lectura* I, d.36, q.u, n.13–16, (Vaticana XVII, 464–65).
30. *Ibid.*, n.17, (Vaticana XVII, 465).

possibles—are non-beings, not because of any formal inconsistency between their positive principles and being, but simply because of a privation of being. In this sense, it is true to say that a chimera is more of a non-being than a dodo, since they are non-beings for different reasons.[31]

What seems to puzzle Scotus the most is Henry's claim that God causes possibles to have *esse essentiae*, insofar as He is their exemplar. In *Lectura*, Scotus never expands on this account, although he offers a number of objections to it.[32] At least one of them seems misconceived.[33] But it is easy to see why Scotus would reject Henry's divine psychology, together with the alleged necessity of positing creatures in *esse essentiae* in order to guarantee God's knowledge. Henry thinks that possibles in *esse essentiae* can serve as the prior reality to which God's thought corresponds, because he thinks that they are produced in *esse essentiae* prior to their being produced in intelligible existence as objects of God's thought. And the latter assumption rests on Henry's conviction that God can conceive of Himself under various relations of imitability, prior to His understanding created essences in themselves. But as we saw in the previous chapter, Scotus thinks it is unintelligible how one could understand any given relation without a prior or at least a simultaneous understanding of both relata. If Scotus is right, Henry's psychological mechanism for producing possibles in *esse essentiae* prior to their having intelligible existence is destroyed. If Henry wanted to insist that God's knowledge of possibles must be guaranteed by correspondence with some prior reality, he could say that possibles are produced in *esse essentiae* by God's initial thought of Himself as He is in Himself. Or he could suppose, as Suarez may have done but Henry not,[34] that possibles have their *esse essentiae* of themselves, independently of any divine activity. A theologian who found these alternatives unattractive, would do better to abandon the

31. *Ibid.*, n.39, (Vaticana XVII, 475).
32. I, d.36, q.u, n.18–19, 21–22, (Vaticana XVII, 465–67).
33. *Ibid.*, n.18, (Vaticana XVII, 465–66).
34. See Timothy J. Cronin, *op. cit.*, chap.2, 38–56.

view that such a guarantee of God's knowledge is needed. And this is what Scotus does.

## 4. SCOTUS'S POSITION

If Scotus does not think that possibles differ from impossibles in that the former have *esse essentiae*, while the latter do not, then what does he think is the ultimate ground of their possibility? Scotus returns to a variation on Avicenna's position, claiming that a given essence or formal aspect (*ratio*) is possible of itself, and there is no further cause of its possibility, any more than there is a cause of whiteness being inconsistent with blackness, other than the fact that it is whiteness. A possible being is possible by the same thing by which it is a being.[35] Ockham quotes Scotus's account of possibility and impossibility as follows:

> ...What is absolutely impossible includes incompossibles, which are incompossible by their formal aspects (*rationes*) and the source of their incompossibility is the source of their formal aspects (*rationes*).
>
> Therefore, this is the process: First the divine intellect produces a thing in intelligible existence at the first instant of nature. At the second instant of nature, it itself has possible existence formally. 'And just as God by His intellect produces the possible in possible existence, so He produces each of the incompossibles that are included in the impossible, in formally possible existence. When those things have been produced, they are formally incompossible in such a way that they could not simultaneously be one thing nor could some third be made from them. And the source of this incompossibility that they have formally is what produced them in possible existence. And the incompossibility of the whole significatum follows the latter incompossibility of theirs. And impossibility with respect to an agent follows from this.' And the whole process ends there and not in the negation of possibility in God.[36]

According to Scotus, possibles such as humanity and impos-

35. *Lectura* I, d.36, q.u, n.32, (Vaticana XVII, 472).

36. *Ord.* I, d.43, q.2, (OTh IV, 645–46); cf. Scotus, *Ord.* d.43, q.u, n.14 and 16, (Vaticana VI, 358–360).

sibles such as chimera differ in that the formal aspects (*rationes*) of the former are compatible, whereas the formal aspects of the latter are not. These formal principles depend for their possibility, compossibility, or incompossibility, only on that on which they depend to be beings. Unlike Avicenna, Scotus thinks that these formal aspects are beings only insofar as they are produced in intelligible and possible existence by the divine intellect. Thus, he concludes that the possibility and impossibility of things depends ultimately on the activity of the divine intellect and derivatively on the formal principles that have intelligible existence.[37] Since on one use of the term 'idea' endorsed by Scotus an idea is just the created essence understood, we can say that for Scotus that reality that makes a proposition of the form 'It is possible that *p*' true, is a divine idea or ideas, which depend for their intelligible existence on the activity of the divine intellect. But while they depend on the divine intellect for *their being*, given such being, the formal principles do not depend further on anything else for *their relations* as compossible or incompossible; rather they are such in and of themselves.

## 5. OCKHAM'S CRITIQUE OF SCOTUS

Ockham rejects Scotus's account of the possibility and impossibility of things on three counts. (i) First, Scotus's account involves positing instants of nature, which Ockham refuses to allow (see chapter 24 above). (ii) Even if one were to allow such a distinction of instants of nature, Ockham does not see how it could be right to say that a creature has intelligible existence at an instant prior to its having possible existence.

> ...On the contrary, take the first instant of nature at which the intellect precedes the intelligible existence of a creature, and I ask whether the creature is possible at that instant, or it is not possible. If it is possible, then it is possible before being produced in intelligible existence. If it is

37. *Ibid.*, n.17, (Vaticana VI, 360).

not possible, then existence is incompatible with it.[38]

)ckham just does not see how there could be an instant of any ort at which a creature was neither possible nor impossible.

(iii) Further, Ockham attacks Scotus's claim that creatures are *roduced* in intelligible and possible existence by being understood by God. Even on his early view according to which oncepts have objective existence, Ockham might have objected to this locution. For while he was then committed to the laim that all creatures have objective existence as objects of God's thought, he probably would not have wanted to say that God produced them in objective existence. To speak of production might suggest that there was a time at which they had no xistence of any sort and a later time after which they had existence of some sort. Nevertheless, he would have then been ommitted to saying that ideas and creatures have some sort of xistence—viz., objective existence—for the having of which hey depend on God's thinking them.

In *Ordinatio* I, d.43, q.2, however, Ockham seems to adopt is later view about the nature of concepts, when he says that

> ...it does not seem good to say that the divine intellect produces a creature in intelligible existence. For what receives no formal existence by an act but is only named by a certain extrinsic denomination, is not produced by such an act. But a creature receives nothing formally by being understood by God, but only is denominated by a certain extrinsic denomination. The same way an object of the created intellect is not produced by being understood, but is only named by a certain extrinsic denomination. Therefore, a creature is not produced in such intelligible existence.[39]

n the next paragraph, he goes on to say that "...Even when a reature is understood, it is nothing, although understood..."[40] ccording to Ockham's later view, when God understands reatures from eternity before they are produced in real existence, such creatures are nothing. Likewise, the divine ideas,

38. *Ord.* I, d.43, q.2, (OTh IV, 647).
39. (OTh IV, 646).
40. *Ibid.*

which are the creatures themselves, are nothing. Since God does understand creatures such propositions as 'A man is understood' and 'A horse is understood' are true. But these propositions can be true, even if horses and men are nothing at all. The only thing that must exist in order for them to be true is God's really existent act of understanding. Of it, Ockham says,

> ...God Himself or the divine essence is one intuitive cognition both of itself and of everything else producible and not producible, that is so perfect and so clear that it is also an evident cognition of past, future, and present things...[41]

## 6. OCKHAM'S CRITIQUE OF HENRY OF GHENT

Presumably, if Ockham wants to reject Scotus's talk of creatures being produced in intelligible existence, he would likewise want to reject Henry of Ghent's talk of creatures being produced in *esse essentiae*, although Ockham does not explicitly discuss it.

What Ockham does explicitly attend to are Henry's answers to question (A). Throughout most of his discussion, Ockham takes this to be a question about the relation between active and passive causal efficacy—i.e., the relation between the ability (inability) of one thing to cause another, and the ability (inability) of the latter thing to be caused by the former. The question thus understood, Ockham considers and rejects the first two of Henry's answers, while ignoring the third.

> Therefore, I answer the question in a different way. As a general rule, to every related thing, if it be properly designated, there will correspond some correlative. And where the relatives are related as active power to passive power or as cause and effect, the correlatives are always naturally simultaneous. Therefore, since they are naturally simultaneous, and each entails the other, one is not more the cause of the other than vice versa. Since father and son are simultaneous by nature in the way the Philosopher speaks of simultaneity of nature in the chapter on relation in the *Categories*, it follows that the son is not

41. *Ibid.*, d.38, q.u, (OTh IV, 585).

> more a son than the father is a father; nor is the reverse true. Neither is it more the case that the son is [a son] because the father is [a father], than the other way around. Neither is it more the case that the son has a father because the father has a son than the other way around. And so, as a general rule, when the mutual entailment holds precisely because of the nature of the correlatives, one proposition is no more the cause of the other than vice versa.[42]

But 'able to make' and 'able to be made' are correlatives of this type. Ockham thus concludes,

> ...that the inability to do the impossible is not something that God has prior to the impossible's inability to be done by God. Neither is the impossible's inability to be made by God prior to God's inability to do the impossible.[43]

Put generally, Ockham's view is that since these predicates are correlatives, then for any $x$ and for any $y$, '$x$ is able to make $y$' is logically equivalent to '$y$ is able to be made by $x$' or 'It is causally possible that $y$ should be made by $x$'. If so, these equivalences hold if $x$ is God and $y$ is a possible, as well as if $x$ is God and $y$ is an impossible. Only if one proposition entailed the other but not vice versa, could we assign to the one some priority over the other.

## 7 OCKHAM'S POSITION

Ockham quite obviously does not have his eye on questions (B) and (C) in criticizing Henry of Ghent. Yet historians of philosophy have felt sure that Ockham gave answers to such questions. Citing his discussion in *Ordinatio* I, d.43, q.2, they have attributed to him the view that the ultimate ground of possibility is the divine power:[44] what makes possibles different from impossibles is simply that God has the power to make the former but not the latter. And the divine power is the reality

42. *Ibid.*, d.43, q.2, (OTh IV, 648).
43. *Ibid.*, (OTh IV, 649).
44. Wolter, *op. cit.*, 83–84.

that makes propositions of the form 'It is possible that *p*' true. Is there any evidence that these were Ockham's intended answers?

In *Quodlibeta* VI, q.6, Ockham confesses, "...I believe in God, the Father Almighty. I understand this in such a way that anything that does not include a manifest contradiction ought to be attributed to the divine power." Since he also holds that nothing that includes a contradiction ought to be attributed to any power, this passage seems to commit him to the claim that 'God has the power to make *x*' and '*x* is logically possible' are logically equivalent. This might seem to be evidence that Ockham located the ultimate ground of logical possibility in the divine power. In fact, when all of his remarks about omnipotence are taken together, it is clear that he does not assert such an equivalence (see Part Five, chapter 28 below). And in any case endorsing it would be compatible with giving any of the answers to (B) and (C) discussed so far.

Wolter has argued vigorously that no evidence for the historians' thesis is to be found in *Ordinatio* I, d.43, q.2. It is Henry of Ghent, not Ockham, who is presented there as holding that God's power to make possibles and lack of power to make impossibles is prior to their ability and inability to be made, respectively.[45] Furthermore, Ockham explicitly rejects the answers that the above mentioned historians claim he gave to (B) and (C). In *Ordinatio* I, d.43, q.2, Ockham considers the suggestion that one could establish the dependence of a creature's possibility on the divine power by means of the following argument: "A creature has whatever it has from God. Therefore, it has the possibility of existence from God."[46] Ockham rejects this reasoning. Instead,

> It must be said that whatever creatures have that is real, as something inhering in them, they have from God as from its originative source. But it does not have everything that pertains to it by way of predication in this way, except in the way God has such predicates [as may be af-

45. *Op. cit.*, 86–87.
46. (OTh IV, 649).

> firmed of Him] from God. For when such predications are actually and really made, then they are from God. And hence to be possible is something that a creature has of itself, but is not anything real inhering in it. But the creature is truly possible of itself, just as a man of himself is not a donkey. Therefore, arguments like the above do not hold except for those things that pertain to it in reality, in the way that a whole has its parts and its accidents. Nor is it a very proper way of speaking to say that possible existence pertains to a creature, but rather one properly ought to say that a creature is possible, not because something pertains to it, but because it can exist in reality.[47]

The logical possibility that a thing exists is not some property really distinct from and inhering in the thing. This is clear, since some logically possible things do not exist and therefore do not have any really existent properties. Thus, possibles do not differ from impossibles by having such a property. They are, as Avicenna said, possible of themselves. And the reality that makes propositions of the form 'It is possible that *p*' true is not such a property that depends on an exercise of divine power for its existence.

In that case, what is it, according to Ockham, that makes propositions of the form 'It is possible that *p*' true? Focussing on the above passage and replying to Wolter, Franz Pelster insists that Ockham must have thought it was the divine power.

> ...Ockham rightly declares that possibility or impossibility is not, as it were, a real (physical) quality inhering in the thing. The creature is possible, because it can exist in the physical order—an explanation of the same by the same. Thus he seems to deny any intrinsic ground for the possibility of a thing. It is only a matter of the possibility of a statement. This becomes still more explicit in his objections against Scotus. The latter used these words, 'The divine intellect produces a creature in intelligible existence'. Ockham complains about the word 'produces' and remarks in that connection that the object of the divine understanding receives thereby nothing formally, but only an extrinsic denomination. Intelligible existence is nothing real. He thus denies any kind of reality, no matter whether physical or ideal, to intelligible (possible) existence. There remains, therefore, only the statement: 'The thing can be made real', or in other words 'God can make the thing real'. Let us now take one of the indicted text books in hand. C. Frick

47. (OTh IV, 649–650).

> writes, 'There are certain scholastic adversaries, especially Ockham, who, having left aside every intrinsic possibility of things, attribute the whole capacity of existing that a thing has to the effective power of God, and they teach that by this and by this alone—viz., that God can make something—is that thing possible.' Is this so far removed from what is stated in our question?...[48]

Pelster's idea is that if logical possibility is not a property really distinct from and inhering in a thing, then it must be that there is no real ground intrinsic to the creature of its logical possibility. It is just that a certain proposition is true about that creature. And the only reality Pelster can think of that is available to make such a proposition true is something extrinsic to the creature—viz., God's power to make it.

I think Pelster's reasoning is mistaken, however. First of all, it is rather strange, in view of Ockham's last quoted remarks, to attribute to Ockham a denial of any intrinsic ground of possibility in creatures. After all, he has just said that creatures are possible *of themselves*, as opposed to being made possible through the inherence of some really distinct property. If this statement suggests anything, it suggests that the ground of a creature's possibility is intrinsic, not extrinsic to the creature.

This claim is not particularly problematic on Ockham's early view about the ontological status of concepts. On that view, creatures have from eternity objective existence in the mind of God (see chapter 24 above). In early expositions of this opinion, Ockham makes clear that this is a type, although a very diminished type, of existence. What has objective existence is not purely nothing. If we join this to Ockham's claim that creatures are possible of themselves, we can conclude that on Ockham's view, it is objectively existent divine ideas that make propositions of the form 'It is possible that $p$' true. This view would be very like that of Scotus, without the talk of production.

If the discussion in *Ordinatio* I, d.43, q.2, presupposes Ockham's mental-act theory, nonexistent possible creatures

48. Translated from "Die Lehre Ockhams vom Grund der Möglichkeit der Possibilien," *Scholastik* XXVIII (1953), 405–407.

will have no (present) being (either objective or real) when they do not (present tense) really exist. Nevertheless, as we have seen in Part Two, chapter 11 above, Ockham may have regarded them as items everlastingly given in the ontology and available to be supposited for by terms in propositions of possibility. If so, he could have replied to Pelster that it is such objects in their (present) givenness that makes propositions of possibility true (or false). But what if, on the other hand, Ockham did not intend his mental-act theory to carry any ontological commitment to unactualized possibles? Two alternatives seem open. He could simply accept a modification of the "Aristotelian" correspondence theory of truth, admitting that some propositions are (present tense) true now, even if there is (present tense) nothing that exists now to make them true. If the mental-act theory rejects any ontological commitment to unactualized possibles and non-present temporalia, he will be found to make such a modification for the case of singular future contingent propositions anyway (see chapter 27 below). Alternatively, he could appeal to the divine intellect itself, which he says is one simple intuitive cognition of everything actual and possible, and appeal to his doctrine of natural signification to explain how the divine act of cognition could be the reality that makes such propositions true. Such an account would be ultimately unsatisfactory, since it would inherit the difficulties (outlined at the end of the last chapter) involved in applying the doctrine of natural signification to the divine act of cognition. But these difficulties lie at the heart of Ockham's philosophy, while those connected with attempts to ground possibility in the divine power are demonstrably alien to it.

# 26

# Can God Know More Than He Knows? A Matter of Types and Tokens

In his *Ordinatio* I, d.39, q.u, Ockham asks whether God could know more than He knows. His reply is brief and straightforward. If 'know' is taken broadly for a cognition of anything whatever, then God cannot know more than He knows because He eternally and immutably conceives of "all things: complex and non-complex, necessary and contingent, true, false, and impossible."[1] As immutable, "...He cannot acquire the knowledge of anything" in this sense "for the first time."[2] On the other hand, if 'know' is taken strictly, in such a way that it means "the same as 'cognize what is true',"[3] still

> ...God cannot know more than He knows. The reason for this is that everything true is known by God, and the number of truths is always the same. Thus, it is not possible that more things are true at one time than at another, since at each time one or the other part of a contradiction is true, and nothing is true but what is one or the other part of a contradiction. And it is not possible that both parts of a contradiction are true, and so there are always as many true things at one time as at another, and neither more nor less...[4]

Since in Ockham's logic, propositions are tensed and change

1. *Ibid.*, (OTh IV, 589), trans. Adams and Kretzmann in *Predestination, God's Foreknowledge and Future Contingents*, Appendix I, B, 93.

2. *Ibid.*, in Adams and Kretzmann, *op. cit.*, C, 93.

3. *Ibid.*, in Adams and Kretzmann, *op. cit.*, B, 93.

4. *Ibid.*, (OTh IV, 589–590), in Adams and Kretzmann, *op. cit.*, C, 93; cf. *Predestination, God's Foreknowledge, and Future Contingents*, q.2, a.3, (OPh II, 526), Part Two, G, (Adams and Kretzmann trans., 63).

their truth-value with the passage of time (see Part Two, chapter 11 above), "some things are true at one time that are not true at another time."[5] And God will at a later time know different propositions from those He knows at the present time. But this does not mean that God's knowledge will increase or decrease. For "if something becomes false that was true earlier, something will become true that was false earlier."[6]

The contrary supposition—that God can know more or less than He knows—can seem theologically scandalous on at least two grounds. First, it suggests that God's knowledge is or could be incomplete. If God can know more, it seems that He has something to learn; if He can know less, He must be able to lose sight of something that He knows now. Surely both learning and forgetting are to be excluded from the perfection of divine knowledge. Second, if the claim that God can know *later* more (or less) than He knows *now*, then it seems inconsistent with the medieval doctrine of divine immutability.

Ockham obviously thinks that his terse but initially plausible reply should banish any notion that the scope of God's knowledge could expand or contract. But his Dominican contemporary Robert Holkot charges that Ockham's own principles would force him to admit that God can know more than He knows, less than He knows, or even nothing at all. The central issue here is the ontological status of propositions, and it will be the concern of the first part of this chapter. How Ockham could hope to reconcile his concession that God can know different propositions at different times with divine immutability will be considered at the end of the chapter.

## 1. HOLKOT'S ARGUMENT THAT GOD CAN KNOW MORE AND LESS THAN HE KNOWS

In *Quodlibeta* I, q.6, Holkot seems to agree with Ockham that whether God can know more or less than He knows,

5. *Ibid.*
6. *Ibid.*

depends upon whether there can be more or fewer of what is knowable. And Ockham has insisted, following Aristotle in the *Posterior Analytics* (2, 71b26) that

(T1) Only truths are knowable,

and that

(T2) Only complexes of terms, or propositions, are true

in the relevant, non-transcendental sense.[7] Given these assumptions, Holkot does not see how Ockham can suppose that the number of truths is always constant and equal to the number of falsehoods, or how he can consistently say that God cannot know more or less than He knows. For, as Holkot points out, it is an easy task to increase or decrease the number of propositions. We may add new propositions by writing, speaking, singing, and thinking.[8] And we may destroy them by burning books, falling silent, or going to sleep.[9] Similarly, God can create or annihilate a single proposition, while preserving all of the others in existence.[10] And He could even annihilate all complexes of terms, thereby reducing their number to zero.[11] Again, other things being equal, I can unequalize the number of truths and falsehoods, simply by writing 'Socrates is sitting' (assume it is true) one thousand times and 'Socrates is not sitting' only once. When Socrates stands up, making the latter true and the former false, the number of truths will decrease.[12] But God is

7. *Ord.* I, d.2, q.4, (OTh II, 134–38). Thus, in (OTh II, 134), he says "scientia quaelibet sive sit realis sive rationalis est tantum de propositionibus...solae propositiones sciuntur..." and a little later on, in (OTh II, 137), he writes that "nihil scitur nisi complexum."

8. *Quodlibeta* I, q.6, lines 95–100, 112–15, ed. Ernest Moody in "A Quodlibetal Question of Robert Holkot, O.P., on the Problem of the Objects of Knowledge and of Belief," *Speculum* XXXIX (1964): 53–74.

9. *Ibid.*, lines 153–57.

10. *Ibid.*, lines 101–104.

11. *Ibid.*, lines 106–109.

12. *Ibid.*, lines 116–125.

omniscient, and therefore, on Ockham's view, knows all and only true propositions (where 'knows' is taken in the stricter sense above). Hence if the number of propositions increases, decreases, or is reduced to zero, God will know more than He knows, less than He knows, or nothing at all.[13]

To modern ears, Holkot's arguments will sound strange indeed. For nowadays, the label 'proposition' is reserved for Fregean entities that could not come into or go out of existence. Holkot's propositions include spoken and written sentences, as well as mind-dependent entities. And as E. A. Moody has correctly suggested, there is the further underlying assumption that

(T3) Only token propositions exist,

since it is only tokens, not types, whose number can be readily increased, decreased, or reduced to zero in any of the above described ways.[14] Ockham, by contrast, in assuming that the number of truths and falsehoods is constant and equal seems to treat propositions as types. The thrust of Holkot's argument is that Ockham has no right to do so, since for a good nominalist there are no such things as proposition types. Ockham has insisted that only particular men such as Socrates and Plato can really exist and that the common nature humanity cannot really exist. In the same way, Holkot thinks, Ockham should hold that only proposition tokens can really exist and that proposition types cannot really exist. And just as he rejects (on Aristotle's behalf) a move to identify genera with aggregates of their species and species with aggregates of their particulars,[15] so he should refuse to identify proposition types with aggregates of their tokens.

Showing that the number of really existing true propositions can vary will show that the number of truths can vary, only if

13. *Ibid.*, lines 95–109.

14. *Op. cit.*, 69.

15. *Expos. Porphyr.*, Prooemium, sec.2, (OPh II, 11–13); c.1, sec.4, (OPh II, 19); c.2, sec.15, (OPh II, 52); c.3, sec.8, (OPh II, 62); c.3, sec.10, (OPh II, 74).

one makes the further assumption that

(T4) Propositions can be true, only if they exist.

Holkot states this premiss at least twice.[16] Confronting the opposing view that

> ...a proposition can be true whether or not it exists, since it is true when things are the way the proposition would denote [them to be], if it existed...[17]

Holkot dismisses it, protesting that "what is nothing signifies nothing, and consequently signifies neither truth nor falsehood."[18] Holkot's argument may be set out as follows.

(T1) Only truths are knowable.

(T2) Only complexes of terms, or propositions, are true.

(T3) Only token propositions exist.

(T4) If something is true, it exists.

5. The number of proposition tokens can (a) increase, (b) decrease, or (c) be reduced to zero.

6. Only proposition tokens are true. (T2, T3, and T4)

7. Only proposition tokens are knowable. (T1 and 6)

8. The number of what is knowable can (a) increase, (b) decrease, or (c) be reduced to zero. (5 and 7)

(T5) God knows everything knowable. (the doctrine of omniscience)

16. *Quodlibeta* I, q.6, lines 38–39, 128–29.
17. *Ibid.*, lines 186–87.
18. *Ibid.*, lines 188–89.

9. God can know (a) more than He knows, (b) less than He knows, or (c) nothing at all. (8 and 9)

The resultant position is doubly problematic. (i) If proposition-tokens are even included among the knowables, it follows that God can know more (9a) or less (9b) than He knows. Yet, we do not ordinarily assume that we can increase anyone's knowledge simply by writing down the proposition 'A man is an animal' one thousand times. (ii) Further, as Holkot himself points out, the conjunction of (T3), (T4), and (T5) requires a modification in the usual formulation of logical rules. For example, on these assumptions, it will not be true that whenever a proposition is true, its contradictory is false; for its contradictory might not exist.[19] Again, there will be exceptions to the general rule that one of a pair of contradictories is true. For given (T4), if no proposition exists, neither 'Some proposition exists' nor 'No proposition exists' is true. Similarly, if 'No proposition exists' is the only extant proposition, neither it nor its contradictory is true.[20] Again, someone who accepts (T3)–(T5) will not define the necessity of a proposition in terms of its always being true. For they will want to say that the token 'If God exists, God exists' is a necessary proposition. Yet, it has not always been true, because it has not always existed.[21] Likewise, they will not want to define the possibility of a proposition in terms of its being possibly true, since it is possible that no proposition exits, although 'No proposition exists' is not possibly true.[22]

On the other hand, if *only* proposition tokens are knowable, it follows that God can know nothing at all (9c). For Ockham holds that

(T6) God is simple,

19. *Ibid.*, lines 183–85.
20. *Ibid.*, lines 126–29.
21. *Ibid.*, lines 133–141.
22. *Ibid.*, lines 144–47.

which he takes to imply that God is neither composed of a plurality of things (*res*) nor the subject of really distinct, inherent accidents. Hence, God can neither be nor have inhering in Him a complex of terms. Since, by (T2), only complexes of terms are propositions, it follows that

(T7) All propositions are creatures.

We have seen in earlier chapters how, according to medieval theology,

(T8) God alone exists necessarily, and everything else that exists is the product of His free and contingent volition.

Accordingly, it follows from (T7) and (T8) that the number of propositions can be reduced to zero, just as Holkot says. It follows further, given the medieval assumption,

(T9) The world had a beginning in time,

that it once was zero and that before creation God knew nothing at all. Or, turning the argument on its head, (T5) was taken by medieval theology to imply that God knows all *about* logic and mathematics, created natures, and the whole course of created world history. Ockham formulates this thesis as a claim about which *propositions* God knows. Accordingly, the conjunction of (T5) with (T1)–(T4) implies that from eternity proposition tokens about these subjects existed. Since (T1)–(T5) are supposed to be necessary truths, it follows that it is necessary that some such proposition tokens existed from eternity. By (T6), it is necessary that some creatures existed from eternity, which would be regarded as incompatible with both (T8) and (T9).

Ockham could easily accommodate the intuition that we do not magnify anyone's knowledge merely by multiplying proposition tokens of the same proposition type, by appealing to his notion that one proposition token may be equivalent in signifying to a numerically distinct proposition token. Suppose

we put all propositions equivalent in signifying to a given proposition into a set. Once God knows one member of the set, Ockham may say, He does not acquire any more knowledge *about* logic, mathematics, created natures, or the course of world history by coming to know others. So long as for each fact, there is some proposition token that signifies it, the completeness of God's knowledge about such things will be guaranteed. No theological scandal will arise from the admission that God can know more or less than He knows, in the sense that as the number of true proposition tokens increases or decreases, the number of them that He knows increases or decreases; for no increase or decrease in His knowledge about things will be thereby implied. But if Ockham insists on saying that God's knowledge about logic, mathematics, created natures, and the whole course of world history must be knowledge of propositions, how can he deal with the second problem, the objectionable consequence formulated in (9c)?

Before examining Ockham's actual solutions to these problems in more detail, it will be useful to survey two principal alternatives offered by his contemporaries and successors, both of which involve a rejection of (T2).

## 2. GOD'S ACT OF THOUGHT IS A TRUTH

Holkot himself accepts (T1) and agrees that complexes of terms are true. But he rejects (T2), insisting that

> not only a complex is true. For God is true and is one cognition that is equivalent to and prior to a true complex. Thus, by knowing Himself, He knows that what is true, is; indeed He knows whatever would be denoted by all of the propositions that would be true if they existed, in whatever way or at whatever time they existed...[23]

Besides propositions, things that are—either naturally or by convention—equivalent in signifying to propositions, may be true.[24] God Himself is equivalent in signifying to a conjunctive

23. *Ibid.*, lines 62–65.

24. *Ibid.*, lines 66–72.

proposition whose conjuncts include all of the propositions that would be true if they existed. Thus, even

> ...if there were no proposition in the world, and other things existed, God would know as much *about things* through Himself and through things, as He knows now. Nevertheless, in the assumed case, He would not know *as many truths*...[25]

Since it is impossible for the truth that is God to fail to exist, Holkot will not accept (9c). And while he does seem to grant (9a) and (9b), he does not regard them as theologically pernicious, since they do not imply that God knows more or less *about* things at one time or another.

Following the same inspiration, Peter of Ailly maintains that since the divine essence is equivalent in signifying to such a conjunctive proposition, it deserves to be called a proposition itself.[26] Hence he will deny that only complexes of terms are propositions and hence both (T2) and (T7). Yet he will be able to affirm that God necessarily and eternally knew all about everything by knowing a proposition, without running afoul of (T8) and (T9).

## 3. THE THING SIGNIFIED BY THE PROPOSITION AS THE ADEQUATE OBJECT OF KNOWLEDGE

If really existing token propositions are what is knowable, Holkot's conclusion may seem inevitable. But some medieval logicians—instead of insisting that propositions are the proper objects of belief and knowledge and trying to neutralize (9a) and (9b) by noting that all propositions of a given proposition-type are equivalent in signifying—reject (7) and likewise (T2), claiming that, strictly speaking, the object of knowledge or belief is not a proposition, but the thing signified by the proposition. Since all tokens of the same proposition type signify the same thing (or at least have the same adequate significatum), a per-

25. *Ibid.*, lines 51–53, (italics mine).
26. *Insolubilia*, 3rd conclusion, ed. Guy Marchaud, (Paris, 1498, 16b).

son's knowledge will not increase or decrease as the number of token propositions with which he is acquainted increases or decreases. This approach thus seems to offer a nominalist a way of saying that God cannot know more than He knows, without admitting that proposition types can really exist. The main difficulty with this approach is to specify what the thing signified by a proposition is (see Part One, chapter 9 above).

(a) According to the view that Holkot attributes to Walter Chatton,[27] the thing signified by a proposition is the thing signified by its parts. "... Thus, the act of believing 'God is three in one' has God for its object, and the act of knowing 'A man is an animal' has a man for its object..."[28]

Holkot and logicians after him attacked this position on numerous grounds. (i) To begin with, Holkot insists on (T1) and argues that the thing signified by a proposition cannot be known (in this stricter sense) because it is not true.[29] If one did allow that the thing signified by a proposition was true, then extramental things such as Socrates and Plato would be contradictory. In fact, the same thing could be contradictory to itself. For, on this view, both 'Socrates runs' and 'Socrates does not run' signify Socrates.[30] (ii) Further, Holkot points out that for many true propositions, no single thing is precisely what is signified by that proposition. The true negative proposition 'A man is not white' signifies something white as much as it signifies a man.[31] In a similar vein, the early fifteenth century logician, Paul of Venice, notes that some true negative propositions such as 'No chimera exists' signify nothing that really exists. Hence, no really existing thing would be the object of the act of knowing 'No chimera exists.'[32] (iii) Holkot's younger con-

27. As Moody notes, whether or not Holkot's interpretation of Chatton is correct, or whether Chatton actually held the view that the thing signified by a proposition is a fact or a state of affairs, will have to await a careful examination of Chatton's *Commentary on the Sentences* (*op. cit.*, 67).

28. *Quodlibeta* I, q.6 lines 9–13.

29. *Ibid.*, line 14.

30. *Ibid.*, lines 19–33.

31. *Ibid.*, lines 16–19.

32. *Logica magna*, Part II, Fascicule 6, Tractatus de veritate et falsitate

temporary, Gregory of Rimini[33] argues that if the thing signified by one of the parts of a proposition is the object of knowledge, it would by the same token be the object of opinion, faith, and error. Thus, if the same person knows that God is eternal, believes that He is a Trinity of persons, and is mistaken in thinking that He is of finite power, that person knows, believes, and is mistaken about the same thing (namely, God)—which is absurd.

(b) William Crathorn,[34] Gregory of Rimini,[35] and others claimed that the thing signified by a proposition was the proper object of knowledge and belief, but they refused to identify this significatum with any thing or things signified by one of the proposition's parts. The thing signified by the whole proposition 'A man is an animal' is not a man, but a man's being an animal. But a man's being an animal is not a substance, or a quality, or any of the other Aristotelian accidents. Some said that it was not a thing, but the mode of a thing.[36] Gregory of Rimini says that for a man to be an animal is not a thing or things, but rather is for things to be in some way (*aliqualiter esse*). The same is true for other *complexe significabilia* or *enuntiabilia*, i.e., for whatever can be signified only by a complex of terms or proposition. Expressed in contemporary terminology, their view seems to be that what can be signified by a proposition alone is not a thing or things, but a state of affairs.

Such states of affairs exist in some sense. Gregory of Rimini explicitly assumes that it is primarily *enuntiabilia* that are said to be true or false, while the propositions corresponding to

propositionis, c.2, (Del Punta and Adams ed. and trans., 15–25).

33. *Super primum et secundum Sententiarum* I, d.2, q.1, a.1, (Venice, 1522, fol.1vb N).

34. For an extremely valuable discussion of Crathorn's view, see Heinrich Schepers, "Holkot contra dicta Crathorn," *Philosophisches Jahrbuch*, LXVII (1970): 320-354; LXXIX (1972): 106-136.

35. *Op. cit.* I, d.2, q.1, a.1, fol.1va–2ra C.

36. Paul of Venice, *Logica magna*, Part II, Tractatus de significato propositionis, c.1, (Del Punta and Adams ed. and trans., 80–85).

them are true or false only derivatively.[37] Thus, Gregory would reject (T2). Further, he clearly regards the number of such *enuntiabilia* as necessarily fixed, unlike the number of token propositions, and so the number of primary objects of knowledge cannot change.

As noted above (in Part One, chapter 9), the difficulty here is to say just what the ontological status of such states of affairs is. Paul of Venice argues that whatever it is, some of them—e.g., that a man exists—are not God and so are creatures. If their number were necessarily fixed, as Gregory alleges, a plurality of creatures would be necessarily co-eternal with God—which is contrary to both (T8) and (T9).[38] On the other hand, if Gregory were to change his mind and say that their number is not constant, the problem with which we began re-arises. If the number of *enuntiabilia* increases when the world is created, then God's knowledge would increase at that instant. And if such *enuntiabilia* are creatures, God could at any time annihilate them all with the result that He would know less than before, indeed nothing about creatures at all.

Gregory could well reply that (T8) and (T9) have to do with the real existence of creatures, whereas he is not committed to the thesis that all *enuntiabilia* really exist from eternity. Rather he has distinguished three ways of understanding the terms 'being' or 'thing': one way, according to which whatever can be signified, whether by a complex or by a non-complex, whether truly or falsely, is a being or a thing; another way, according to which whatever can be signified by a true complex or by a non-complex is a being or a thing, while false propositions signify non-beings; and a third way according to which 'being' signifies an essence or really existing entity.[39] The significata of propositions are beings or things in the first or second ways, but not the third. Not everything that is a being or a thing the first way really exists; Gregory must have some other ontological

37. *op. cit.* 1, d.2, q.1, a.1, fol.2ra D; d.39, q.1, a.2, fol.156vb Q–157rb F.

38. *Op. cit.*, Part II, Tractatus de significato propositionis, c.3, 96–105.

39. *Op. cit.* I, d.2, q.1, a.2, fol.1vb Q–2ra A.

status in mind.

For his part, Paul of Venice does not understand what such an ontological status could be:

> ...This position has to grant that there is something or things are in some way, and [yet] this, or this way, neither God nor creature is, neither what is dependent nor independent, neither what is capable of creating nor capable of being created, neither what is corporeal nor incorporeal, neither what is in the world nor outside the world, neither what is in a category nor outside a category, neither what is in the mind nor outside the mind, neither a thing nor a mode of a thing, neither something positive nor a privation, neither what exists *per se* nor what is inherent in another, neither substance nor accident, neither act nor potency, nor a composite of these, neither what is perfect nor imperfect, and nevertheless eternal and necessarily existent—which, in my judgment, no imagination formed by right reason can admit.[40]

As we have seen in the last chapter, many philosophers would reject the notion that *enuntiabilia* eternally and necessarily have some ontological status independently of God, His thought or volition, as inconsistent with (T8) and (T9). And Gregory fails to elaborate any less straightforward reduction of *enuntiabilia* to the divine act of thought.

(c) Perhaps more promising of a solution to our problem are Paul of Venice's own views regarding the adequate significata of propositions. He agrees with Gregory of Rimini that the adequate significata of propositions are the primary bearers of truth and falsity and hence the primary objects of knowledge,[41] while propositions are derivatively true or false.[42] Hence, he would deny (T2). Further, Paul agrees with Chatton that the adequate significatum of a true, affirmative, present tense proposition such as 'Socrates is a man' is really the same as the adequate significatum of its subject or predicate.[43] Nevertheless, he insists against Chatton that they are not altogether the same (because

40. *Op. cit.*, Part II, Tractatus de significato propositionis, c.3, 103 and 105.

41. *Ibid.*, c.8, 190–91.

42. *Ibid.*, Tractatus de veritate et falsitate propositionis, c.9, 62–65.

43. *Ibid.*, c.7–8, 50–63; see Part One, chapter 2 above.

formally distinct). For the significatum of the term 'God' is God, but the significatum of 'God is eternal' is not God simpliciter, but God being in some way, while the significatum of 'God is three persons' is God being some other way. Consequently, one who believes the former but doubts the latter, does not believe and doubt what is altogether the same. More important for our purposes, is his claim that the adequate significata of negative propositions and past and future tense propositions are nothing,[44] and his consequent admission that the primary bearers of truth or falsehood may be true or false even if they do not exist. If the adequate significatum may be true or false whether or not it exists, there would be no reason to say that the number of what is primarily knowable varies as the number of *really existent* adequate significata increases or decreases. The fact that there can be more or fewer of what is derivatively knowable—viz., token propositions—would not be theologically objectionable.

Ockham neither began nor entered into this lively fourteenth and fifteenth century debate about the ontological status of the signif catum of a proposition. He does often speak in the *Summa logicae* of what is denoted (*denotatur*) by the whole proposition, as distinguished from what its terms signify or supposit for. And he once maintains that God cognizes all *enuntiabilia* without engaging in the activity of compounding and dividing.[45] Yet, surprisingly, it does not occur to him to ask whether such a denotation or *enuntiabile* is anything in any way distinct from substances and qualities. In view of our discussion in Part One, chapter 5, we might expect him to deny that the proposition as a whole signifies any things (*res*) over and above those signified by its subject and predicate; rather it signifies those things to exist or be some way, and its contradictory signifies otherwise. In any event, Ockham does not explicitly consider whether the significatum of the whole proposition might replace the proposition itself as the proper object of

44. *Ibid.*, Tractatus de significato propositionis, c. 5–6, 122–157.

45. *Ord.*, I, d.39, q.u, (OTh IV, 592), in Adams and Kretzmann, *op. cit.*, Appendix I, C, 95.

knowledge or belief. On the contrary, he is Holkot's witness against Chatton that this is not the case. Ockham's reply to Holkot must, therefore, be developed along different lines.

## 4. OCKHAM'S EARLY NOMINALISM AS A REPLY TO HOLKOT

In his brief discussion in *Ordinatio* I, d.39, q.1, Ockham assumes that the number of propositions is constant, but he makes no explicit attempt to justify this claim. And Holkot charges that it is inconsistent with Ockham's nominalism. As discussed in Part One, chapters 3 and 4, however, Ockham's nominalism takes two forms: one, according to which concepts (the primary names) have objective existence; and the other, according to which they are identified with really existing mental acts. I would like to argue that Ockham's earlier position would allow him to say that the number of propositions—whether spoken, written, or mental—is constant, although his later position does not. Since his answer in *Ordinatio* I, d.39, q.1 was formulated at a time when he regarded the first view as correct, we would thus have an explanation of why Holkot was able to find support for his argument in Ockham's remarks there. Unfortunately, this hypothesis will prove oversimple, and it will turn out that Holkot's argument has *ad hominem* force even against his earlier theory.

Ockham's objective-existence theory provides a rationale for doubting, not (T1) or (T2), but (T4) and 5. (i) Focus first on what the objective-existence theory has to say about mental propositions, which are compounded out of concepts. Just as Ockham wants to say that mental names are the primary names, so he will hold that mental propositions are the primary propositions, by (T2) the primary bearers of truth and falsity, and by (T1) the primary objects of knowledge. Further, just as concepts have objective existence as the objects of really existent acts of thought, so mental propositions have objective existence. Indeed, like universals, mental propositions are not the kind of

thing that can really exist.[46] Hence, real existence is not, as Holkot intends to claim in (T4), a necessary condition of a proposition's being true. Ockham's objective-existence theory would reject (T4) and replace it with

(T4′) If a proposition is true, then either it has objective existence, or it really exists.

I indicated in Part Two, chapter 11 above that there is some point to saying the objectively existent concepts are more like types than tokens, in that (on one interpretation) the same objectively existent thing might be the object of numerically distinct, really existent thoughts. If so, it would turn out that on the objective-existence theory, mental propositions, the primary objects of knowledge, are *types*, not tokens. And this thesis would combine with (T4′) to provide a way of avoiding Holkot's conclusions in 6 and 7. Without 6 and 7, 5 will not be enough to show that the number of what is knowable can be reduced to zero. It would be necessary to add

(5′) The number of proposition types in objective-existence can be reduced to zero,

—which the objective-existence theory rejects. For God eternally, immutably, and necessarily thinks of all propositions, and hence all eternally, immutably, and necessarily have objective existence as objects of His thought. And the number of true mental propositions would likewise be unchanging.

(ii) As noted above, only Holkot's conclusion 9c depends on his maintaining that *only* proposition tokens are known. To infer that God can know more or less than He knows, he needs to claim only that token propositions are knowable as well as proposition types. And Ockham has insisted that spoken and written propositions, which ultimately acquire their signification by being conventionally related to mental propositions, also have truth-value and hence are objects of knowledge. It seems there-

46. *Ord.* I, d.2, q.8, (OTh II, 273).

fore, that even if Ockham's objective-existence theory can reject 9c, it must concede 9a and 9b.

This answer would be premature, however, For Holkot's argument for 9a and 9b depends on the assumption in (T4) that token propositions can be true only if they really exist. But we have already seen that Ockham's objective-existence theory will reject (T4) in favor of (T4'). Since God eternally and immutably thinks of all noise and inscription tokens, as well as of all mental propositions, all noise and inscription tokens—whether they are actual or possible—will have objective existence eternally and immutably as objects of God's thought. Hence the number of them in objective-existence can neither increase, decrease, nor be reduced to zero. And if (T4) is replaced by (T4') would it not therefore follow that the number of true spoken and written proposition tokens will remain constant, just as the number of true mental propositions does?

Ockham does not seem willing to draw this conclusion. On the objective-existence theory, mental propositions need only have objective existence in order to be significant. But noise and inscription tokens may exist without being significant, when no conventions have been established to make them significant. And considered apart from such conventions, no noise or inscription token would count as a proposition or be the kind of thing that could be true, no matter how long it had existed either in reality or as an object of thought. Thus, in order for the number of true spoken and written propositions to remain constant from eternity, they would have to be eternally associated with conventions making them significant.

Accordingly, in *Ordinatio* I, d.35, q.4, Ockham maintains that God understood creatures from eternity. Where mental propositions are concerned, he remarks that "God from eternity understood all possible propositions to be conceived by any created intellect whatever" and therefore that "the proposition 'God understands a creature' was true from eternity, just as it is now." Conventionally significant spoken and written propositions would not be true from eternity, however, because conventions making them significant did not exist from eternity. According to one opinion he is discussing, in the absence of

such conventions, they would be "false or improper."[47] And in the following reasoning, Ockham adopts the infelicitous posture of supposing such noise and inscription tokens to be false:

> Suppose someone should raise a cavil saying that the following is a formal inference: 'God from eternity understood a creature or something other than Himself'; therefore, from eternity 'God understood something other than Himself' was true.
>
> I reply that this inference does not hold good as is clear from the following example: This is now false: 'bu is ba'. Nevertheless, if conventions should be established later that 'bu' signifies what 'man' signifies and signifies it in the same way as 'man' does, and likewise that 'ba' signifies what the spoken sound 'animal' signifies and in the same way as 'animal' signifies it; then after the convention is established, this will have to be granted: 'bu was ba before the convention [was established]'. Nevertheless, 'before the convention [was established] 'bu is ba' was false.' Thus, in the case at hand, the inference 'God understood something other than Himself; therefore "God understood something other than Himself" was true from eternity' does not follow formally. The inference is not formal, if conventions were not established from eternity for these terms to signify what they signify now. But that has more to do with logic, and so it should be passed over.[48]

For present purposes, it does not matter whether Ockham held that noise and inscription tokens, considered apart from conventions, are false or that they are improper. What is of interest is his claim that such tokens could not be *true* propositions from eternity unless conventions making them significant had *actually* been established from eternity. Since the conventions actually established can and have changed with the passage of time, the number of true conventionally significant propositions can increase. Ockham's discussion supposes that it has increased, when the conventions for written and spoken Latin and English came into existence. Thus, Ockham's remarks here seem, after all, to expose his objective-existence theory to Holkot's attack where conventionally significant propositions are concerned.

I think that Ockham has adopted this incriminating posture

47. (OTh IV, 475).
48. *Ibid.*

unnecessarily, however. To be sure, there is no acceptable way of getting around the fact that linguistic conventions are not immutable and eternal. For the notion of convention implies agreement among the members of a linguistic community. Since God is not a language user and creatures did not exist from eternity, linguistic communities did not exist from eternity either. Furthermore, history shows that language users have been inconstant in their agreements, adopting different conventions at different times. Nevertheless, would it not be enough to fix the number of spoken and written propositions from eternity, if God eternally thought of all noise and inscription tokens, whether actual or possible, and in addition thought of each possible set of linguistic rules according to which such tokens could be used? Perhaps there are infinitely many ways in which each token could be associated with the mental language. This would pose no problem from Ockham's point of view, however, since he repeatedly affirms the infinite capacity of the divine mind. But if all possible tokens and all possible linguistic rules are immutably thought by God from eternity, then the number of true spoken and written propositions will not change, any more than the number of true mental propositions will.

The second point worth recalling is that on Ockham's objective-existence theory, only particulars can exist in reality, but universals can have objective existence as objects of thought and do have eternal objective existence as objects of God's thought. Presumably, then, the objective-existence theory will allow that although only spoken and written proposition tokens can really exist, spoken and written proposition types may have objective existence. And all will have it eternally and immutably as objects of God's thought, so that their number will not increase or decrease either.

Summarizing, I think we can conclude that Ockham's early nominalism would have enabled him to defend his assumption that the number of propositions and likewise the number of truths is constant. For, given his distinction between objective and real existence, he need not have claimed that any proposition must really exist in order to be true; it would be enough to

require that it either really exists or has objective existence. And he could have claimed that all propositions—spoken and written as well as mental, actual as well as possible—eternally and immutably have objective existence as objects of God's thought, and therefore that their number can neither increase, nor decrease, nor be reduced to zero. Ockham did not actually develop his position this way, however. Instead, in *Ordinatio* I, d.35, q.4, Ockham allows that the number of true spoken and written propositions can and does change[49]—which is inconsistent with his supposition in *Ordinatio* I, d.39, q.u that the number of truths is always constant. Probably this inconsistency is a matter of carelessness which can be made more understandable in terms of Ockham's conviction that mental propositions are the primary propositions, just as mental names are the primary names. Spoken and written propositions are numbered among the knowables only because they are equivalent in signifying to some mental propositions or others. In all likelihood, Ockham glosses over the fact that God could know more spoken and written proposition tokens then He knows, because he thinks that knowing numerically more tokens equivalent in signifying to a mental proposition already known, does not constitute any substantive increase in knowledge.

## 5. THE MENTAL-ACT THEORY'S REPLY

Ockham's mental-act theory abandons the distinction between objective and real existence. And just as only particulars can really exist, so only proposition tokens. Concepts are identified with really existing acts of thought, and the mental propositions formed from them must likewise be identified with one or more such acts. In creatures, mental acts are particular mental qualities. Since my act of thinking that Socrates is a man is necessarily numerically distinct from your act of thinking the same thing, the mental propositions that these mental acts are, are numerically distinct tokens of the proposition type 'Socrates

49. *Ibid.*, (OTh IV, 474–75).

is a man'.

Further, as Holkot notes, Ockham explicitly endorses (T3) in the *Summa logicae*, where he everywhere assumes that concepts are really existent mental qualities. For he explains

> ...that a proposition is not said to be necessary because it is always true, but because, if it exists, it is true and cannot be false. For example, the mental proposition 'God exists' is necessary, not because it is always true—since if it does not exist, it is not true—but [because] if it exists, it is true and cannot be false...[50]

Similarly, in *Quaestiones in libros Physicorum*, q.115, he remarks that

> if no intellect existed, still man would not be a stone, and yet the proposition 'Man is not a stone' would not be true then, because no proposition would exist then.[51]

Thus, so long as Ockham continues to hold

(T7) All propositions are creatures,

it seems that his position is liable not only to the difficulties posed by Holkot's 9a and 9b—which he would probably not have found so problematic for reasons discussed above—but also to 9c.

Here, too, Ockham seems not to have exploited the potentialities of his position fully. For in his *Perihermenias*-commentary, Ockham explains that a mental-quality theorist has more than one option when it comes to explaining what propositions are:

> ...One way it could be said that a mental proposition is an act composed of many acts of understanding. For example, the mental proposition 'Man is an animal' is only an act by which all men are understood confusedly, an act by which all animals are understood confusedly, and an act which corresponds to the copula. Alternatively, it can be said that

50. II, c.9, (OPh I, 275).
51. (OPh VI).

> this proposition is an act that is equivalent to three such acts existing simultaneously in the understanding. In that case, according to this way of speaking, a proposition is not anything really composite but is only composite by equivalence—i.e., it is equivalent to such a composite.[52]

And he suggests that the mental-quality theorist could insure a distinction between the mental propositions 'Every white is an animal' and 'Every animal is white', by stipulating that a proposition is an act of understanding that would be equivalent in signifying to really distinct mental acts corresponding to the subject, predicate, copula, and quantifier arranged in the order they would have in spoken propositions.[53] But if a single created mental quality by which I think that every man is an animal can be equivalent in signifying to two categorematic terms, the copula, and a quantifier, all arranged in a certain order, a fortiori, the simple cognition by which God thinks of all propositions is equivalent in its natural signification to an infinite conjunction, not merely of all true, but of any and every possible mental complex. It seems a verbal, rather than a doctrinal adjustment, for Ockham to take the further step of calling this divine mental act a proposition the way Peter of Ailly did. Ockham would then need to modify (T2), retaining the claim that only propositions are true (and hence, by (T1), knowable), while replacing the stipulation that propositions *are* complexes with the requirement that they are equivalent in signifying to complexes. Since God exists necessarily and is essentially omniscient, the number of token propositions could never be reduced to zero, and the existence of that one proposition would be enough to insure the completeness of God's knowledge about things.

In conclusion, it seems that Ockham actually develops his objective-existence and mental-act theories in such a way as to imply that God can know more or less than He knows—contrary to His explicit pronouncement in *Ordinatio* I, d.39, q.1. I have

52. (OPh I, 355–56).
53. (OPh II, 356).

argued that while the objective-existence theory—but not the mental-act theory—could avoid this conclusion, Ockham would not in any case have found it theologically problematic, since knowing more (or fewer) token propositions equivalent in signifying to ones already (still) known does not constitute a substantive increase (or decrease) in knowledge. Even as it stands, Ockham's objective-existence theory will not allow for the possibility that God should know nothing at all. And if Ockham had exploited his suggestion in the *Perihermenias*-commentary that a single mental act may be equivalent in signifying to a complex of them, he could have excluded that possibility on the mental-act theory as well.

## 6. OMNISCIENCE AND IMMUTABILITY

As we have seen in chapter 21 above, Ockham holds that

(T6) God is simple,

in the sense that He is neither a composite of many things nor the subject of inherence of any thing (*res*) really distinct from it. Hence, He cannot change by coming apart (corruption), or by coming to have something different inhering in Him (alteration). Since He is necessarily existent, He cannot be annihilated. And since He is incorporeal and has no spatial location, He cannot undergo locomotion either.[54] In short, Ockham concludes that

(T10) God is immutable.

And we have seen in the preceding sections how Ockham understands the doctrine of omniscience to include the thesis that God knows all true propositions.

Yet, following Aristotle in the *Perihermenias*, Ockham insists that every proposition includes a noun and a verb and

54. *Ord.* I, d.8, q.7, (OTh III, 258–261).

verbs consignify time. Thus, all propositions in Ockham's logic are tensed and many change truth-value with the passage of time. The tensed propositions 'Socrates will sit down', 'Socrates is sitting down', and 'Socrates was sitting down' became true in succession. Likewise, given that the number of proposition tokens can and does change, propositions of the form '*n* proposition tokens exist now', '*n* + *m* proposition tokens exist now', '*n* – *m* proposition tokens exist now' (where *n* and *m* are positive integers) are true and false at different times. But if different propositions are true at different times, it seems to follow that God knows different propositions at different times? How, then, can He be immutable?

Ockham considers the problem that because God "can know many contingent propositions that will be true but that are now false" and "He knows some propositions that are true about the present and that will be false afterwards," "therefore His knowledge is mutable."[55] And he explicitly concedes that God can and does know different propositions at different times:

> Speaking of knowing and of God's knowledge strictly, as is said in Assumption 7, I maintain that God can know something that He does not know now (since in this sense [of 'know'] God knows nothing unless it is true), for a proposition that is not true now—such as that I am in Rome—can be known by God at some time even though it is not known by Him now...[56]

And again in d. 39, q.u:

> ...Just as something can be true that was not true earlier, so something can be known by God that was not known earlier. For everything true, when it is true, is known by God; and when it is not true, it is not known by God. For example, 'I am in Rome' is not now known by God because it is not now true. Nevertheless, it can be known by God, because it can be true; and if it will be true, it will be known by God.[57]

55. *Predestination, God's Foreknowledge, and Future Contingents*, q.2, a.3, (OPh I, 526), Part Two, G, (Adams and Kretzmann trans., 62).

56. *Ibid.*

57. (OTh IV, 590), in Adams and Kretzmann, *op. cit.*, Appendix I, C, 93.

Does this admission not simply give up (T10), the doctrine of divine immutability?

(i) Ockham insists that it does not:

> Speaking of propositions that are merely about the present and that depend in no way on the future, I maintain that just as such propositions can change from truth to falsity and vice versa, so God can at one time know such a proposition and at another time not, and know one after He did not know it, and not know it after He did know, and know a proposition that He did not know earlier, without any change in Him as a result of a mere change in a creature or in known propositions of this sort (just as He is said to be first noncreating and afterwards creating as a result of a change in and the establishing of a creature), because *our* intellect can [do this] without any change in it. Proof: suppose that I think that the proposition 'Socrates is seated' is true although it is false, because Socrates is standing, and that while that act remains in my intellect that proposition becomes true. Now I know that which I did not know before, without any change in my intellect but only in the thing...[58]

This analogy does not seem to be of much help in proving Ockham's point, however. For in the cited case, I first do not know and then do know because my belief is constant through a change in truth-value of the proposition believed: my belief is first false and then true. God's knowledge cannot remain immutable that way, however, because it is impossible that God should hold a false belief.

(ii) Holkot suggests a different solution:

> In reply to the argument, when it is assumed that God's knowledge can neither increase nor decrease, I grant it. For His knowledge is His essence. Nevertheless, His essence sometimes knows more things, sometimes fewer, inasmuch as there are sometimes more truths and consequently more of what is knowable, sometimes fewer. In the same way, His power cannot increase or decrease. Nevertheless, He can sometimes make more things, sometimes fewer...[59]

58. *Predestination, God's Foreknowledge, and Future Contingents*, q.2, a.3, (OPh II, 524–25), Part One, F, (Adams and Kretzmann trans., 60); *Ord.* I, d.17, q.1, (OTh III, 460–61); *Quaest. variae*, q.6, a.3, (OTh VIII, 222).

59. *Quodlibeta* I, q.6, lines 269–273.

God immutably and eternally has the power to produce whatever is logically possible. Further, He immutably and eternally wills that some things should come into existence at one time and others at another. Nevertheless, 'make' or 'create' is a connotative term signifying not merely the producer or creator but also the newly extant product. Thus, although God eternally willed that Socrates should come into existence at $t$, God is said to create Socrates only at the first moment of Socrates' existence. And God is said to create more or fewer things at a given time than at some other time. But the coming into existence of more or fewer things at different times requires no change in the divine essence.

In the same way, God eternally and immutably apprehends all possible proposition tokens. But His cognition of the proposition token 'Socrates is sitting' will be a cognition of what is true only if 'Socrates is sitting' exists and is true. That 'Socrates is sitting' exists and is true at some times and not others can be accounted for merely by appealing to changes in creatures. Hence, God can cognize more or fewer truths without any change in His essence, and Holkot's conclusion does not threaten divine immutability.

It is true that at the outset of his discussion in *Ordinatio* I, d.39, q.u, Ockham says that he will use 'know' in the second sense to mean the same as 'cognize what is true'. If 'cognize' means—as it usually does—'conceive of', 'think of', or 'apprehend', then Ockham is saying that '$x$ knows $p$' is equivalent to '$x$ apprehends or thinks of $p$ and $p$ is true'. So understood, Holkot's analogy would indicate how God could know more or less than He knows (in this sense) without undergoing any change.

Our study of Ockham's epistemology makes clear that he did not intend his remarks in that way, however. For according to him, knowing a proposition involves not only an act of apprehending it but also an act of assenting to it or of judging it to be true. In human beings, mental acts are mental qualities inhering in the soul, and in the natural order of causes, human acts of apprehension are distinct from human acts of judgment. He grants the logical possibility that a single mental act might be at

once the act of apprehension and the act of judgment (see Part Three, chapter 13 above). Presumably, Ockham would want to say that the divine act of apprehension and the divine act of judgment are alike identical with the divine essence. If God holds no false beliefs and knows all truths, then in knowing first one proposition and then another, He will have to assent first to one and then to another, which would seem to involve a change in the divine essence itself.

(iii) Ockham considers and rejects yet another way out of this dilemma.

> Suppose someone says that whatever God knows now He will always know, since from the fact that God first knows the proposition 'Socrates is seated' and afterwards knows the proposition 'Socrates was seated' [it does] not [follow] that He knows something different; rather [He knows] one and the same thing.[60]

The suggestion is that what God really knows is facts. All three of the above mentioned propositions express the same fact —say, Socrates' sitting (tenseless) at *t*. We just describe God's knowledge first by the one proposition and then by the other depending on our temporal relation to the event. But these changing descriptions reflect no change in God, but only in the temporal world and our relation to it.

Insisting on (T10), Ockham replies that the mental act by which God knows 'Socrates is seated' is the same mental act by which He knows 'Socrates was seated'. But these propositions do not describe the same object of knowledge. For the primary object of knowledge is propositions, and "those complexes are neither one and the same, nor equivalent, nor interchangeable; for one can be true while the other is false."[61] Ockham might be willing to allow, as suggested above, that what God knows by knowing one proposition token of the proposition type 'Socrates is sitting' is the same as what He knows by knowing another token of that same proposition type. For such tokens

60. *Predestination, God's Foreknowledge, and Future Contingents*, q.2, a.3, (OPh II, 527), Part Two, G, (Adams and Kretzmann trans., 63).

61. *Ibid.*

are equivalent in signifying. But propositions with different tenses are not equivalent in signifying, as can be seen from the fact that it is possible that one should be true when the other is false and vice versa.[62]

Some recent philosophers would admit that 'Socrates is sitting' and 'Socrates was sitting' are not altogether equivalent with respect to their signification. For in addition to the fact of Socrates' sitting (tenseless) at *t*, these propositions express the temporal relation of the speaker or thinker to that fact. 'Socrates is sitting' locates the speaker or thinker at the same time as Socrates' sitting, while 'Socrates was sitting' locates him after Socrates' sitting. That is why these different propositions are appropriately used by different speakers or thinkers at different times. Further, a temporal being is in a different cognitive state when he assents to 'Socrates is sitting', from when he assents to 'Socrates was sitting'; for with the former, he locates himself in the temporal stream simultaneous with Socrates' sitting; and with the latter, posterior to it. But all of this would argue for a difference in the objects of God's knowledge or cognitive state, only if He were a temporal being and successively bore different temporal relations to the fact of Socrates' sitting at *t*. God is an eternal and not a temporal being, however. Hence no change in the objects of His knowledge is indicated thereby.

Depending on his view of the ontological status of temporalia, Ockham might make a double reply here. First, Ockham does not join other medieval philosophers in believing that God is eternal in the sense of being timeless. He holds that there is no time without moving creatures. Since (T8) God exists necessarily and creatures contingently, it follows that God would exist even if there were no temporal order. And of course, if there were no temporal order, no temporal predicates would truly apply to God. Since there can be no creatures and hence no succession without God, however, God necessarily coexists with any and all succession that there is. In response to the citation from Jerome, that "God alone has not known being, having been, and being going to be," Ockham insists that

62. Cf. *Rep.* III, q.9, (OTh VI, 293–94).

> ...[God has not known one of them] together with the negation of the other. For He has not known being that at some time was not or at some time will not be. For there could not thus be any time when He was not, or any time when He is not. But any creature is such that it could not have been and it can not be.[63]

Apparently, he thinks that we can say truly and non-metaphorically that God has always existed, that He existed in the past, exists now, and will exist in the future. Hence, He does have a temporal relation to temporal states of affairs, in that He is simultaneous with each.[64]

Second, unless Ockham is an Indexicalist about temporal predicates (as seems unlikely, see Part Two, chapter 11 and Part Four, chapter 20 above), he will reject the claim that the tenses of verbs and temporal adverbs serve only to indicate the temporal relation of the speaker or thinker to the state of affairs expressed by the proposition. Rather, they serve an additional function: either (if he is an Omnitemporalist) of signifying which states of affairs have (present tense) which primitive temporal properties; or (if he is a Past-Present Favoritist) of indicating whether or not such a state of affairs is given in the ontology, and whether or not it is among the last items to be so given. Present tense indicates that the state of affairs is among the last; past tense that it is given but not among the last; future tense that it is not given. God may eternally entertain the whole of world history; but if He does not know which states of affairs have which primitive properties, or how much of the sequence is (present tense) given in the ontology, He is cognitively deficient.

(iv) The fact remains, then, that Ockham thinks that God has different objects of knowledge at different times, and hence assents to different propositions at different times. But he thinks that this does not involve any change in God, because the really existent mental act by which He assents to 'Socrates is sitting' is numerically the same as the really existent mental act by which

63. *Ibid.* II, q.8, (OTh V, 160–61).
64. *Ibid.*, (OTh V, 155–161).

He later assents to 'Socrates was sitting'. How can He think that these two claims are compatible?

The explanation may be historical. In *Ordinatio* I, d.38–39, q.1–5, Duns Scotus is comparing the powers of the divine and human wills. He says that the human will is free for opposite acts and hence for opposite objects. By contrast, the divine mental act is simple and unlimited in such a way that numerically the same divine volition that is in fact a volition that *p*, could have been a volition that not-*p*.[65] Ockham is taking this move a step further. He is saying that numerically the same divine cognition may *first* be a judgment that *p* is true and then be a judgment that *p* is false; but this change in intentional objects involves no real change at all in the divine mental act.

While this line of thinking has historical precedent on its side, it seems to render the intentionality of God's mental act utterly mysterious. I have argued that Ockham tries to explain the intentionality of mental acts of apprehension in terms of similarity and/or causal connections. If this is the explanation Ockham wants to stick by, then it seems unintelligible that one and the same mental act should first be an act of apprehending *p* and then be an act of apprehending not-*p*. Of course, Ockham will say that he is not committed to the view that one and the same act of *apprehension* is first of one object and then of another, but only that one and the same judgment is first a judgment that *p* is true and then a judgment that *p* is false. If so, however, similarity and causal connections could not be invoked to explain what makes it first to be of the one and then of the other. Perhaps it will be said that what makes an act to have a given intentional object is some primitive property of the act. But then we have to ask whether or not this primitive property is real. If so, then it seems that for the divine cognition to be first a judgment that *p* is true and then a judgment that *p* is false, the cognition will first have to have one primitive property and then another—which implies that it is changeable after all. Ockham's solution seems once again to founder because of his inability to account for the intentionality of the divine mental act.

65. N.15–16, (Vaticana VI, 417–18); n.21, (Vaticana VI, 426).

# 27

# Divine Omniscience, Human Freedom, and Future Contingency

Most medieval theologians construed the doctrine of divine omniscience in such a way as to include the thesis that

(A) God has eternal and immutable ⌜determinate knowledge⌝ of the whole course of created world history.

God does not merely hold determinate opinions about how world history will go; His judgments count as knowledge, and so bear the marks of truth and certainty. Further, they contrast with human beliefs in being essentially infallible, that is,

(B) Necessarily, if God judges that $p$ is true, $p$ is true.

Yet, problems arose as to how such knowledge is possible for God—either logically or psychologically.

One plausible tenet of some medieval and modern epistemology is that

(C) There is a causal connection between the knower and the known.

But (A) combines with (C) and the medieval doctrine of divine impassibility—

(D) It is logically impossible that God should be causally affected by anything

—to yield the conclusion that from eternity God causes each and every feature of world history, including all human actions.

Yet this is contrary to the universal conviction that

(E) Human beings are free in such a way that they are morally responsible for their actions,

when this is rendered in terms of the incompatibilist thesis that

(F) Human beings are morally responsible for their actions only if they are free in a sense that is not compatible with their actions being completely determined by anything or anyone else.

If human free choice is a self-determining power for opposites, then some events are not completely determined by divine causation, and by (D) and (C) not eternally known by God.

Another problem arises with God's eternal and infallible determinate knowledge of future contingents in particular. Briefly, the contingency in question is not mere logical, but real contingency: *p* is contingent in the relevant sense, where there is a potency in things for *p* and a potency in things for not-*p*; necessary, where there is no potency in things for not-*p*; and impossible, where there is no potency in things for *p*. On the one hand, such potencies are measured causally: where something is causally sufficient for *p* (not-*p*), there is no potency in things for not-*p* (*p*), and *p* (not-*p*) is necessary; but where nothing is causally sufficient for *p* and nothing for not-*p*, then there is a potency for each (*potentia ad utrumlibet*) in things and *p* is contingent. On the other hand, contingency may be identified with ontological indeterminateness, on the ground that

(G) Where there is a potency for opposites, the potency for *p* (not-*p*) does not survive the reduction of the potency for not-*p* (*p*) to act.

If in the past there was a potency for opposites, say a potency for Adam's existing and a potency for Adam's not existing, the one has now been actualized to the exclusion of the other—his existence has cancelled whatever potency there was in things

for his never having existed. Where the double potency of contingency remains in things, neither $p$ nor not-$p$ has been determinately actualized yet. According to a correspondence theory of knowledge, however, it seems that

(H) Only what is determinate can be determinately known

as opposed to believed or opined. If future contingents (which include, by (E) and (F), future human free actions) are neither ontologically determinate, nor causally determined by what is already determinate in the past or present, they are not eternally knowable by God or anyone else.

The attempted solutions to these difficulties by Aquinas, Scotus, and Ockham represent a good sampling of the metaphysical and theological options. Each carries with it certain costs and benefits. That none seems fully satisfactory in the end merely confirms the perennial intractability of these problems.

## 1. AQUINAS'S POSITION

In his *Sentence*-commentary, Aquinas acknowledges that

> contingents seem to escape divine cognition for a double reason. First, because of the order of the cause to what is caused. For it seems that the effect of a necessary and immutable cause would be necessary. Thus, since God's knowledge is the cause of things and is immutable, it seems that it could not extend to contingents. Second, because of the order of knowledge to what is known. For since knowledge is certain cognition, then even if the causality of God's knowledge were left aside, this certainty requires certainty and determinateness in what is known, and this excludes contingents. This is clear where our knowledge is concerned, and also where God's knowledge of evil is concerned.[1]

(1.1) In response to the first argument, Aquinas agrees that

> God's knowledge is a cause of things. For God's knowledge is related to

1. *In I Sent.*, d.38, q.1, a.5, (Parma VI, 316).

every created thing the way an artisan's knowledge is related to his artifacts... Thus, God's knowledge must be a cause of things insofar as His will is joined to it.[2]

Further, he grants that God's knowledge is immutable, and that it is a necessary cause in that as a natural cause it immutably and invariably causes anything of which it is a sufficient and unobstructible cause. But he rejects the inference that everything God knows comes to pass necessarily rather than contingently, holding that God's knowledge is not, by itself, a sufficient cause of creatures.

...For whenever there are many causes ordered to one another, the last effect does not follow the first cause so far as its necessity and contingency are concerned, but rather the proximate cause. For the impact of the first cause is received by the secondary cause in a way appropriate to the secondary cause...[3]

He gives the example of the joint action of the sun and the generative power of a tree causing the tree to flower. The sun is a partial cause of the flowering of the tree, and the generative power of the tree is a secondary partial cause. But the activity of the former is not a sufficient condition for the activity of the latter. Hence, even though the sun's activity is immutable and invariable (in that it is a natural cause that by nature always acts in the same way and cannot be obstructed from producing anything of which it is a sufficient cause), the activity of the generative power can be obstructed. Consequently, the production of the effect is avoidable and contingent upon whether or not the proximate cause is obstructed. Aquinas reasons,

...Likewise, God's knowledge is an invariable cause of everything. But effects are produced by it through the operations of secondary causes. Therefore, necessary effects are produced by necessary secondary causes, such as the motion of the sun; but contingent effects by means of contingent secondary causes.[4]

2. *Summa theologiae* I, q.14, a.8.
3. *In I Sent.*, d.38, q.1, a.5, (Parma VI, 316).
4. *Ibid.*, (Parma VI, 318).

For although God's knowledge is a necessary cause, it is not, by itself, sufficient for the action of the secondary causes, and so the necessity of the former does not transfer to the latter or to the whole production of their joint effect.

(1.2) The second argument assumes that the objects of knowledge are determinate, actual beings. If contingency is identified with indeterminateness, God's eternal and complete knowledge of created things eternally excludes contingency from them. Aquinas's reply, in effect, grants that things are eternally determinate ontologically but refuses to identify contingency with ontological indeterminateness and instead measures it exclusively in relation to the potencies of a thing's proximate created causes.

Thus, Aquinas admits with Avicenna that "whatever is known must exist in some way."[5] But

> the existence of a thing can be considered three ways: either the way it is in its own nature produced by its causes, or the way it exists in the power of a cause, or the way it exists in the apprehension of a knower...[6]

Aquinas thinks that there are two methods in which certain knowledge of a thing can be had—either by seeing it as it exists determinately in its own nature, or by demonstrating that it follows necessarily from unobstructible causes that always act the same way. We can have certain knowledge of things present to us the first way, and scientists acquire certainty about the future occurrence of an eclipse or the orbit of the sun the second way. Yet, "there are some causes whose effects follow most of the time, but fail to follow in a minority of cases" and other causes "are [equally] related to each [of a pair of opposites]."[7] And they can form the basis of conjectural knowledge of their future effects. Since beings that are merely future relative to a temporal being cannot also be present to it, Aquinas concludes that a temporal being cannot have any cer-

5. *Ibid.*, a.4, (Parma VI, 315).
6. *Ibid.*
7. *Ibid.*, a.5, (Parma VI, 317).

tain knowledge of future contingents at all.

Nevertheless, since contingency is measured by causal potencies and not by ontological indeterminateness, Aquinas insists that God can have certain knowledge of all temporalia that ever actually exist by "the knowledge of vision":

> ...from eternity, God knew all of those things that exist in their own natures at any time, and does so by apprehending their natures and seeing them existing, not only in His own cognition or in the power of some cause, but also in the existence of the nature. This is clear. For it is agreed that when a thing exists, God knows the existence that it has in its own nature. But if from eternity, He cognized only the existence it has in His cognition or in the power of cause, His cognition would be perfected through the succession of time...[8]

And he allows that this is possible because God is eternal, not in the sense of existing at all times, but in the sense of being timeless:

> ...Boethius clearly explains how this happens at the end of the *Consolation of Philosophy*, Book V, last prose section. For every cognition exists in the way appropriate to the knower, as was said. Therefore, since God is eternal, His cognition must have the aspect of eternity, which is to be simultaneously whole without succession. Thus, although time is successive, nevertheless, His eternity is present to all times by one and the same indivisible, standing now. Likewise, His cognition intuits all temporal things, even though they succeed one another as present to it. Nor is any of them future with respect to His cognition, but one is future with respect to another...[9]

In *Summa contra gentiles* I, chapter 66, Aquinas compares the way eternity is present to each and every instant of time to that in which the center of a circle is present to each and every point on the circumference. Thus, just as no point on the circumference occupies the same place as any other point, but their spatial ordering constitutes the continuity of the cir-

8. *Ibid.*, a.4, (Parma VI, 315); cf. a.5, (Parma VI, 317); *Summa contra gentiles* I, c.66; *Summa theologiae* I, q.14, a.9.

9. *In I Sent.*, d.38, q.1 a.5, (Parma VI, 317); *Summa theologiae* I, q.14, a.13.

cumference; so no time is simultaneous with any other time, but their temporal ordering constitutes the continuity of time. But just as the center of the circle is equidistant from and directly opposite each and every point on the circumference, so eternity is present to each and every instant of time. Aquinas concludes,

> ...Therefore, since by one eternal, non-successive intuition, God sees all temporal things, He sees all contingent things in various times as present from eternity and not only as having existence in His cognition. For from eternity, God knew not only that He cognized things, which is for them to exist in His cognition; but also from eternity He sees by one intuition and will see particular times, and will see that such a thing exists in this time and fails to exist in that one. And he does not only see this thing as future in relation to a prior time and past in relation to a future time, but sees the time in which it is present and that the thing is present in this time—which, nevertheless, cannot happen in our intellects, whose acts are successive in various times...[10]

Aquinas thus seems to be presupposing not only that God is timeless, but that everything that has any temporal location is also timelessly given "in its own determinate existence." The temporal order is merely a system of before-, after-, and simultaneity-relations among such timelessly given things. There is no difference in the ontological statuses of past, present, and future things. And to say that a thing is past, present, or future is merely to comment on the relational properties that timelessly obtain between it and other things so ordered. As timelessly actual, each temporally ordered thing can be timelessly present to God. And since each is timelessly present to Him, He timelessly sees each in its own determinate existence, and so timelessly has certain knowledge of them and their precise location in the temporal order. Nevertheless, some temporalia are contingent, because there is, in their temporally prior causes, both a potency for them to be and a potency for them not to be.

10. *In I Sent.*, d.38, q.1, a.5, (Parma VI, 317).

## 2. CRITIQUE OF AQUINAS'S SOLUTION

Duns Scotus rejects Aquinas's replies to both arguments. (2.1) Aquinas has not successfully answered the argument from the determinateness of known objects, because his main premisses—viz., that "the whole flux of time and everything that is in time is present to eternity"[11] and that "His eternity is present to all times"[12]—are contradictory. Scotus contends that God's eternity can enable Him to be present to or coexist with only those things that *actually* exist, and that only what is *temporally* present is actual. And he tries to reduce Aquinas's theses to an absurdity as follows:

1. God's eternity can be present to things in their own existence, only if those things are absolutely actual.

2. Only temporally present things are absolutely actual.

3. Therefore, God's eternity can be present to all things, only if all things are absolutely actual *now*. (1 and 2)

4. What is actual at one time cannot be produced in actuality for the first time at a later time.

5. Therefore, if God's eternity is present to all things, nothing will be produced in actuality in the future—which is absurd. (3 and 4)

Or alternatively,

1-3.

4′. Some actual things will be produced in actuality for the first time later.

11. *Lectura* I, d.39, q.1–5, n.23, (Vaticana XVII, 486); *Ord.* I, d.38, q.2 and d.39, q.1–5, n.8, (Vaticana VI, 407).

12. *In I Sent.*, d.38, q.1, a.5, (Parma VI, 317).

5′. Therefore, if God's eternity is present to all things, then some things will be produced in actuality twice—which is absurd. (3 and 4′)[13]

Furthermore, Scotus charges, Aquinas's example of the center of the circle and the circumference tells in the opposite direction:

> ...For if we imagine a straight line with two end points *a* and *b*, where point *a* is immobile and point *b* is swung around (the way it is with the foot of a compass, where one is immobile and the other mobile), the geometers imagine that the swing around of *b* causes the circumference, and they imagine that a flowing point causes a line. Assuming this, if none of the circumference persists through the flowing of *b*, but there is only this point on the circumference (so that whenever that point ceases to be somewhere, then none of the circumference is there), then the circumference is never simultaneously present to the center, but only some point of the circumference would be present to the center. Nevertheless, if, *per impossibile*, the whole of time were simultaneously existent, the whole world would be simultaneously present to eternity as to the center of a circle.[14]

Scotus concedes that "if the whole of time existed simultaneously, eternity would encompass it."[15] But it is logically impossible for the whole of time to exist *simultaneously, at one and the same time.* Consequently, it is logically impossible for the whole temporal creation to be simultaneously present to God's eternity.

Aquinas would reply that Scotus's criticism misunderstands his position. For Aquinas knew as well as Scotus that it is contradictory for all times to exist at one and the same time, assuming that there is more than one instant of time, and contradictory for a given time to be and yet not to be the first instant at

13. *Lectura* I, d.39, q.1–5, n.27, (Vaticana XVII, 487); *Ord.* I, d.38, q.2 and d.39, q.1–5, n.9, (Vaticana VI, 410).

14. *Ibid.*, n.35, (Vaticana VI, 441–42); cf. *Lectura* I, d.39, q.1–5, n.85, (Vaticana XVII, 507).

15. *Ord.* I, d.38, q.2 and d.39, q.1–5, n.35, (Vaticana VI, 442); cf. *Lectura* I, d.39, q.1–5, n.87, (Vaticana XVII, 507–508).

which something exists. When he says that God's eternity is *present* to all times, or that every creature is *present* to God in its own determinate existence, Aquinas does not mean that God and creatures are *temporally* present to one another. For despite the temporal metaphors borrowed by Aquinas from Boethius, and his comparisions of eternity with the temporal present, Aquinas understands God to be eternal in the sense of being timeless, as lacking any temporal location or extension at all. And if God has no temporal location, a fortiori, He does not have the same temporal location as any creatures.

Turning to Scotus's attempted *reductio*-arguments, Aquinas could grant their first premiss—that God's eternity can be present to things in their own determinate existence, only if those things are absolutely actual. Rather, as explained in section 2 above, Aquinas is presupposing an ontology according to which everything that has any temporal location is timelessly given "in its own determinate existence," so that there is no difference in ontological status among past, present, and future things. Each is timelessly present to God who sees and thereby has certain knowledge of it. In advancing premiss 2, Scotus is implicitly rejecting such an ontology in favor of one in which only the timeless and those temporal things that are temporally present are absolutely actual. And he rightly sees that such an alternative ontology would not sustain Aquinas's attempted solution.

(2.2) Scotus also finds fault with Aquinas's claim that "although some things are necessary with respect to divine knowledge, nevertheless, it does not follow that they cannot be contingent with respect to their proximate causes,"[16] however. And he accordingly rejects Aquinas's explanation of how God's immutable and (in that sense) necessary knowledge can be a cause of creatures without taking away their contingency. Thus, he writes,

> I argued against this position in distinction 2, where I proved, from the contingency of things, that God is intellect and will. For no cause

16. *Ord.* I, d.38, q.2 and d.39, q.1–5, n.11, (Vaticana VI, 411); cf. *Lectura* I, d.39, q.1–5, n.33–34, (Vaticana XVII, 489).

> can cause its effect contingently unless the cause is contingently related to the cause proximate to it or to its effect. A short proof of this can be had from the fact that if a moving cause, insofar as it is moved, is moved necessarily, then it moves [another] necessarily. Therefore, if any secondary cause that produces insofar as it is moved by the first cause is necessarily moved by the first cause, it necessarily moves the one proximate to it or necessarily produces its effect. Therefore, the whole order of causes, down to the last effect, will produce necessarily, if the relation of the first cause to the cause proximate to it is necessary.[17]

According to Scotus, in an essentially ordered series, the posterior cause depends on the prior cause of its activity in causing. Thus, if *a-b-c-e* is an essentially ordered series whose first member is *a* and whose effect is *e*, *a*'s activity in causing is causally sufficient for *b*'s activity in causing, and *b*'s for *c*'s; so that if *a* acts immutably and necessarily, so will *c* and the effect will be produced necessarily (see Part Four, chapter 18 above).

Aquinas would simply reply that God's knowledge is not, by itself, a sufficient cause of the activity of the created cause, any more than the sun's heating is sufficient for the action of the generative power of the tree. Hence, Scotus's observations about causal chains are irrelevant where the causality of God's knowledge is concerned.

(2.3) If Aquinas's solutions to the problems of determinateness and causality survive these criticisms of Scotus, they are bought with an analysis of contingency that the Subtle Doctor would have found inadequate. For Aquinas appears to believe that while everything in the temporal order is timelessly given, not everything in the temporal order follows necessarily from unobstructible proximate causes that naturally act always in the same way. Some do, while others act uniformly most of the time, but not always, and still others by nature can act in either of two ways. Things that follow from proximate causes of the first type are reckoned necessary, while those that issue from the other two types are contingent. Human free choices

17. *Ord.* I, d.38, q.2 and d.39, q.1–5, n.12, (Vaticana VI, 412–13); *Lectura* I, d.39, q.1–5, n.35, (Vaticana XVII, 489).

fall into the last category. Nevertheless, Aquinas holds, the divine will is the first cause of everything in the created order, human free choices included,[18] and hence in affirming

(E) Human beings are free in such a way that they are morally responsible for their choices and actions

must deny

(F) Human beings are morally responsible for their actions only if they are free in a sense incompatible with their choices or actions being determined by anything or anyone else.

By contrast, Scotus and Ockham insist on (F).

## 3. SCOTUS'S SOLUTION

Even waiving the above objections, Scotus would have rejected Aquinas's solution to the foreknowledge problem, on the ground that it was blasphemous. For according to Aquinas, God eternally knows all temporal things with certainty, because they are eternally present to Him and He eternally sees them. Scotus insists, on the contrary, that "the divine essence does not take any certainty from any object other than its essence, since it would be degrading for it to do so..."[19] In drawing this conclusion, Scotus apparently assumes that to say that God knows objects *because* He sees them, is to imply that the objects are the cause of God's apprehension—which is contrary to the doctrine of divine impassibility (see chapter 24 above). In fact the thesis that a knower can see only objects that are there to be seen is logically independent of the claim that the known objects cause the apprehension in the knower. But Scotus ignores this point and turns to find a source for divine certainty about contingent

18. *Summa theologiae* I, q.22, a.2.
19. *Ord.* I, d.38, q.2 and d.39, q.1–5, n.10, (Vaticana VI, 411).

things within the divine essence itself. To do so, Scotus goes back to his argument (in section (2.2) above) that in an essentially ordered series, "it is impossible to preserve the contingency of any cause unless we suppose that the first cause immediately causes contingently..."[20] Since there is obviously contingency in the created world,[21] Scotus infers that the first cause must cause contingently and furthermore cause by intellect and will. Given that the intellect is a natural cause of its effects, he concludes that "it is necessary to look for the first contingency in the divine will."[22] And having traced the root of contingency back to the divine will, Scotus argues that God can know contingent truths about the created will with certainty simply by knowing His own will with certainty; for although the contingent features of creation are not ontologically determinate, their sufficient and unobstructible cause is.

Yet, how can Scotus consistently maintain that the divine will, which chooses eternally and immutably, acts contingently? For the choice of a will can be contingent only if the will possesses a real potency or capacity for opposites. But according to

(G) Where there is a potency for opposites, the potency for $p$ (not-$p$) does not survive the reduction of the potency for not-$p$ ($p$) to act,

it will have such a capacity for opposites only at those points at which neither capacity has yet been actualized. And Scotus joins Aquinas in affirming that God eternally and immutably chooses whatever He chooses and hence eternally and immutably actualizes one potency or capacity to the exclusion of the other.

Scotus recognizes such an "evident" capacity for opposites in the human will and regards it as an important ingredient in

20. *Ibid.*, n.14, (Vaticana VI, 415).

21. *Ibid.*, n.13, (Vaticana VI, 415); cf. *Lectura* I, d.39, q.1–5, n.40, (Vaticana XVII, 491).

22. *Ord.* I, d.38, q.2 and d.39, q.1–5, n.14, (Vaticana VI, 415); cf. *Lectura* I, d.39, q.1–5, n.44, (Vaticana XVII, 493).

human freedom.[23] He also concedes that if a will is to choose contingently, it must be the case that *prior* to the choice the will has a real capacity for opposites: for choosing or not choosing, for choosing one thing or something else instead. But Scotus would remind the objector that temporal priority is not the only kind of priority; there is also natural priority. And the will as a power is naturally prior to its acts.[24] Thus, even if we suppose that "a created will existed only for one instant and that it willed something at that instant," Scotus insists that "it would not will it necessarily."[25] For it would at that instant of time $t$ have a real capacity for willing it and a real capacity for not willing it, *naturally prior* to its willing it at $t$. And Scotus would dissolve the apparent contradiction in the latter statement by relativizing the predications to instants of nature (see chapter 23 above): 'The will has at $(t, n_1)$ a real capacity for willing $A$ at $t$ and a real capacity for not willing $A$ at $t$ and the will's real capacity for willing $A$ at $t$ is actualized at $(t, n_2)$' is free from contradiction, although 'The will has at $(t, n_1)$ a real capacity for willing $A$ at $t$ and a real capacity for not willing $A$ at $t$, and the will's real capacity for willing $A$ at $t$ is actualized at $(t, n_1)$' is not. And if there can be such a "not so evident capacity for opposites apart from any succession" in a created will,[26] there can be such a not so evident capacity in the timeless and immutable divine will as well. Scotus emphasizes that this is not to assign any will a capacity "for opposites simultaneously"; for he would agree that 'The will wills $A$ at $(t, n_2)$ and the will does not will $A$ at $(t, n_2)$' is contradictory. As Scotus explains, "I simultaneously have the capacity for opposites, but I do not have the capacity for opposites simultaneously."[27]

Having thus shown how a real capacity for opposites can precede divine choice, Scotus concludes that "nothing other than the divine essence is necessarily related to the divine will

23. *Ord.* I, d.38, q.2 and d.39, q.1–5, n.16, (Vaticana VI, 417); cf. *Lectura* I, d.39, q.1–5, n.45–48, (Vaticana XVII, 493–94).

24. *Ord.* I, d.38, q.2 and d.39, q.1–5, n.15, (Vaticana VI, 417–18).

25. *Ibid.*, n.16, (Vaticana VI, 418).

26. *Ibid.*, (Vaticana VI, 417); cf. *Lectura* I, d.39, q.1–5, n.59, (Vaticana XVII, 497).

27. *Ord.* I, d.38, q.2 and d.39, q.1–5, n.20, (Vaticana VI, 424).

as its object." Rather

> ...just as our will, as naturally prior to its act, elicits the act in such a way that it could, at the same instant, elicit the opposite; so the divine will, insofar as it alone is naturally prior to its volition intending such an object, intends it contingently in such a way that at the same instant it could intend the opposite object...[28]

And Scotus emphasizes that he is not saying merely that each of 'God wills to create a man' and 'God does not will to create a man' is free from logical contradiction; rather he is assigning the divine will a real capacity for opposites, so that willing to create a man, God timelessly has a real capacity not to create a man.

Scotus then turns to explain how God's certain knowledge of contingencies is grounded on His knowledge of His own will. And just as Scotus distinguished natural priorities and posteriorities regarding the divine will, so he finds them in connection with the divine understanding. According to Scotus, God thinks of simples and necessary propositions on the basis of the divine intellect and does so naturally prior to any act of the divine will. Since the divine will is the ultimate source of all contingency in the world, however, its act is what makes contingent propositions true and is that on the basis of which the divine intellect grasps their truth. Scotus explains,

> ...the divine intellect either presents simples whose union is contingent in reality, or if it presents a complex, it presents it as neutral to itself; and the will, choosing one part [of a contradiction] —viz., their conjunction in reality at some time—makes the complex 'This will exist at *a*' determinately true. But given that this complex is determinately true, the essence is a basis by means of which the divine intellect understands this truth...[29]

By one and the same act, the divine intellect understands necessary propositions and simples at an earlier instant of nature,

28. *Ibid.*, n.22, (Vaticana VI, 427); *Lectura* I, d.39, q.1–5, n.54, (Vaticana XVII, 497).

29. *Ord.* I, d.38, q.2 and d.39, q.1–5, n.23, (Vaticana VI, 428); *Lectura* I, d.39, q.1–5, n.64–65, (Vaticana XVII, 500–501).

and contingent truths at a later instant of nature. And Scotus insists that his account

> ...makes clear that the divine intellect is determinate with respect to the same existents that the divine will is determinate with respect to; and that [the divine intellect possesses] the certainty of infallibility—since the will cannot be rendered determinate without the intellect's determinately apprehending what the will determines—and that it is immutable because both the will and intellect are immutable...Nevertheless, the contingency of contingent objects is compatible with these claims, because the will willing this determinately, wills it contingently...[30]

Scotus thus seems to concede that God is able to have certain and determinate knowledge of creatures, only because there is a causal connection between them which runs from Him to them and not vice versa.

## 4. OBJECTIONS TO SCOTUS

Scotus's attempt to reconcile the determinacy of divine knowledge with contingency in creatures meets with three objections. (5.1) Scotus himself mentions the charge that the immutability of the divine will is inconsistent with the contingency of its choice. Endorsing the principle that

(J) If a proposition $p$ is true (false) but possibly false (true), it can become false (true) through some change,[31]

some reason that if 'God wills $p$ for $t$' were contingently true, then some change could occur that would make it false. But the truth-value of 'God wills $p$ for $t$' could not be altered by a change in something other than God. Therefore, if 'God wills $p$ for $t$' is only contingently true, God is not immutable; and if

30. *Ord.* I, d.38, q.2 and d.39, q.1–5, n.24, (Vaticana VI, 429–430).

31. William of Sherwood is among those who subscribe to (J), but Scotus's statement of this objection is obscure (*ibid.*, n.18, (Vaticana VI, 422)).

God is immutable, 'God wills $p$ for $t$' is necessarily true, if it is true at all.

Scotus replies by rejecting assumption (J). As for 'God does not will $p$ for $t$', "its possible truth is not a possiblity [for opposites] in succession, in such a way that it is one after the other, but rather a potentiality for the opposite of what obtains insofar as it is naturally prior to that act."[32] As timeless and immutable, God does not and cannot will first one thing and then the other. But His will has the so-called "non-evident" real power for opposites, since at an earlier instant of nature His will has a real capacity for willing $p$ for $t$ and a real capacity for not willing $p$ for $t$; but at a later instant of nature, one of these capacities is actualized to the exclusion of the other.

While, as we shall see, Ockham joins Scotus in rejecting (J), he objects to Scotus's account of how God has certain knowledge of future contingents on two important points. (4.2) First, Ockham notes, Scotus's characterization of the will's non-evident capacity for opposites without any succession relies on his doctrine that "at one and the same time, there is more than one instant of nature."[33] But Ockham has argued (see chapter 24 above) that "there are no such instants of nature as he imagines"[34] and has rejected Scotus's move to relativize predications to them. Yet, without this device, Ockham charges, the notion of a "not so evident power for opposites without succession" on which Scotus's account of divine certainty depends, collapses into contradiction. Ockham reasons that

> ...a capacity that can be actualized by no capacity, not even by an infinite [capacity], is not to be posited. But this non-evident capacity can be actualized by no capacity, since if it were actualized the will would will something at $t_1$ and not will it at $t_1$, and so contradictories would evidently be true at one and the same time.[35]

32. *Ibid.*, n.19, (Vaticana VI, 423).

33. *Predestination, God's Foreknowledge, and Future Contingents*, q.3, (Adams and Kretzmann trans., B, 72).

34. *Ord.* I, d.38, q.1, (OTh IV, 581).

35. *Ord.* I, d.38, q.1, (OTh IV, 578), trans. in *Predestination, God's Foreknowledge, and Future Contingents*, Appendix I, E, 85.

If any will that acts at $t_1$ to will $p$ for $t_1$ still has real capacity for not willing $p$ for $t_1$, then it would at least be within the power of an omnipotent God to actualize that real capacity. And if He did, 'At $t_1$ the will does not will $p$ for $t_1$' would be true as well as 'At $t_1$ the will wills $p$ for $t_1$'. Thus, assigning Scotus's non-evident capacity for opposites without succession to any will leads to contradiction. And the divine will's putative non-evident capacity for opposites without succession reduces to what Scotus calls "the fourth power—viz., for opposites simultaneously," which he admits is "no power at all."[36]

As we have seen, Scotus assumes that it is legitimate to relativize predications to instants of nature. And just as everyone including Ockham would agree to remove the apparent contradiction in '$x$ is both white all over and not white all over' by relativizing the predicates 'white all over' and 'not white all over' to distinct times; so Scotus relativizes the predicates 'has at $t_1$ both a capacity for willing $p$ for $t_1$ and a capacity for not willing $p$ for $t_1$' and 'at $t_1$ wills $p$ for $t_1$' to distinct instants of nature. Thus, in response to Ockham's argument, he would have replied that even though at $t_1$ the will wills $p$ for $t_1$, it is possible at $t_1$ for some power to actualize the will's capacity at $t_1$ for not willing $p$ for $t_1$. For nothing real or actual in the (temporal and natural) past or present relative to $(t_1, n_1)$ settles the matter of whether or not the will will at $(t_1, n_2)$ will $p$ for $t_1$. Since by hypothesis, the will's capacity for willing $p$ for $t_1$ is actualized at $(t_1, n_2)$, no real power in fact will at $(t_1, n_2)$ actualize the will's capacity for not willing $p$ for $t_1$. Nevertheless, at $(t_1, n_1)$ it is still an open possibility that the latter capacity should be actualized at $(t_1, n_2)$ instead. And if it were, 'At $t_1$ the will wills $p$ for $t_1$' would be false and 'At $t_1$ the will does not will $p$ for $t_1$' would be true. And Scotus would agree with Ockham that no real power could bring it about that both capacities are actualized at once.[37] If Ockham's rather unpersuasive attack on

36. *Ord.* I, d.38, q.2 and d.39, q.1–5, n.16, (Vaticana VI, 419).

37. I take it that Scotus's view of what is possible at earlier and later instants of nature is supposed to mirror Ockham's of what is possible at earlier and later instants of time; and that this point lies behind the replies Ockham

Scotus's instants of nature were sound, however, this escape from contradiction would be blocked and it seems doubtful whether any alternative salvaging the non-evident power for opposites without succession would be available.

(4.3) Second, Ockham questions whether Scotus's account can really guarantee the certainty of divine knowledge regarding contingencies in the created world, while preserving human freedom and moral responsibility as defined not only by

(E) Human beings are free in such a way that they are morally responsible for their actions

but also by

(F) Human beings are morally responsible for their actions only if they are free in a sense that is not compatible with their actions being completely determined by anything or anyone else.

In fact, Scotus raises this question himself when he is discussing whether or not someone predestinate can be damned. (4.3.1) An objector reasons,

> Everything past is absolutely necessary. For, according to the Philosopher in Book VI of the *Ethics*, 'God is deprived of this alone: to make undone those things that have been done'. But the predestination of this predestinate person has become past, since God predestined him from eternity. Therefore, it is absolutely necessary. Therefore, God

proposes in *Predestination, God's Foreknowledge and Future Contingents*, q.3, (Adams and Kretzmann trans., B, 73), (OPh II, 534): "Suppose that it is said that if [this nonevident capacity] is actualized so that 'the will does not will $X$ at $t_1$' is true, then its opposite 'the will wills $X$ at $t_1$' is false (just as, according to you, although 'Peter will be saved' is true now, if it is posited that 'Peter is damned', then 'God does not will supreme blessedness for Peter' is true)." Likewise, in *Ordinatio* I, d.38, q.1, (OTh IV, 578), trans. in *op. cit.*, Appendix I, E, 85: "Suppose it is said that if it is actualized, 'the will willed $X$ at $t_1$' is no longer true, nor even 'the will wills $X$ at $t_1$', since from the very fact that the will does not will $X$ at $t_1$, it follows that 'the will wills $X$ at $t_1$' is not true."

cannot *not* predestine him. Consequently, he cannot be damned.[38]

Even if God's volition is contingent at the time at which He wills, by

(G) Where there is a potency for opposites, the potency for *p* (not-*p*) does not survive the reduction of the potency for not-*p* (*p*) to act,

it falls under the necessity of the past immediately afterwards and so does everything of which it is a mediate or immediate sufficient cause. Thus, the volition by which God predestined someone to grace and glory is now necessary, with the result that the predestinate person cannot be damned. Since, on Scotus's account, God cannot have certain knowledge of every feature of the created world from eternity, unless He wills the relevant propositions true from eternity, it follows that the whole course of world history is necessary as well.

In replying, Scotus follows Aquinas in appealing to God's timelessness. He observes that "because we always look back to the divine volition as if it were past, we therefore almost do not see the liberty in that will for the act that is, as it were, already posited by the will."[39] For regarding it as past, we think of it as necessary the way the past is necessary (see section 2 above; cf. chapter 28 below). Scotus thinks that "this model is mistaken," because God's volition is eternal and that, as Boethius taught, the "now" of eternity is better compared to the temporal present than to the temporal past:

> ...For the now of eternity in which the act exists is always present. Thus, one should think of the divine will or its volition with respect to this object as if, *per impossibile*, God were to begin now to will in this now. Thus, God can freely will what He wills in the now of eternity, just as if His will were not determinate with respect to anything.[40]

38. *Ord.* I, d.40 q.u, n.1, (Vaticana VI, 309).
39. *Ibid.*, n.8, (Vaticana VI, 312).
40. *Ibid.*

But if the necessity of the past stems from its ontological determinateness, it would seem that timeless determinateness is just as problematic as past determinateness. Scotus's defense will run afoul of (G) unless his doctrine of instants of nature and his ascription of the non-evident capacity for opposites to the timeless, immutable divine will stands.

(4.3.2) Ockham offers a different argument that Scotus's account cannot preserve both divine certainty and the contingency and moral responsibility of created wills as defined by (E) and (F).

> I argue against his opinion, however, for it does not seem to preserve the certainty of God's knowledge with respect to future things that depend absolutely on a created will. For I ask whether or not the determination of a created will necessarily follows the determination of the divine will. If it does, then the will necessarily acts [as it does] just as fire does, and so merit and demerit are done away with. If it does not, then the determination of a created will is required for knowing determinately one or the other part of a contradiction regarding those [future things that depend absolutely on a created will]. For the determination of the created will does not suffice, because a created will can oppose the determination [of the uncreated will]. Therefore, since the determination of the created will does not exist from eternity, God did not have certain cognition of the things that remained [for a created will to determine].[41]

According to Scotus, "...God foresees that this person will use his free choice well, only because He wills or foreordains that the person will use it well..."[42] And he has given the impression in distinctions 38–39 that such divine choice is logically sufficient for the creature's choices.[43] If so, Ockham argues, the created will no more has a real capacity for opposites than fire does and so will not act contingently or be morally responsible

41. *Predestination, God's Foreknowledge, and Future Contingents*, Assumption 6, (Adams and Kretzmann trans., P, 49), (OPh II, 516).

42. *Ord.* I, d.41, q.u, n.36, (Vaticana VI, 330).

43. Elsewhere, Scotus does not make it unambiguously clear whether or not he believes that divine choice is logically sufficient for creatures' choices; but there is substantial evidence in that direction. For further discussion of these texts, see chapter 30 below.

for its actions. On the other hand, if divine choice is not logically sufficient, how can it be a basis for certainty in divine knowledge?

Ockham's inference – that if the determination of a created will by God suffices, then the created will acts necessarily just as fire does – seems mistaken. After all, fire is a natural cause that has no capacity within itself for opposites either for a given time or successively. If fire heats at $t_1$, there was no real capacity in the fire before $t_1$ for heating after not heating, or vice versa. As a natural cause, fire always acts to the limit of its power, and thus always heats unless some external obstacle prevents it from doing so. The will, by contrast, does not, as we can see, always act in the same way, barring some impediment. If it wills $A$ at $t_1$, it may cease to will $A$ at $t_2$ or even will against $A$ at $t_2$. And this pattern might hold, even if the created will followed the determination of the divine will necessarily. Nevertheless, Scotus would agree with Ockham that a created will is free in the sense defined by (E) and (F), and its choices are meritorious or demeritorious, only if the choice is self-determined. Thus, Ockham explains in his *Physics*-commentary that

> the Philosopher does not intend absolutely to deny that anything is moved by itself, where 'motion' is taken broadly to include sudden change (*subito mutari*). For a free will changes itself when it causes an act of willing against something in itself. For since no external act is praiseworthy or blameworthy except because it is within our power, according to the Philosopher in Book III of the *Ethics*, it must also be the case that no act of loving or hating is praiseworthy or blameworthy except because it is within our power. But obviously an act of loving someone else is sometimes praiseworthy and sometimes blameworthy. Therefore, such an act is within our power. But if it had something else as its natural or sufficient cause, it would not be within our power. Therefore, it remains that such an act has an efficient cause that is somehow from and in the will and hence that the will causes such an act in itself and so moves itself, where 'motion' is taken broadly...[44]

But if created choices are eternally and necessarily determined

44. *Expos. Physicorum* VII, t.2, fol.88ra, (OPh V); cf. *Ord.* I, d.42, q.1, (OTh IV, 621–22).

by the divine will, then they are not self-determined in the required way.

The text of the *Reportata Parisiensis* I, d.47, q.1, raises an analogous difficulty with Scotus's account of divine foreknowledge in the *Lectura* and *Ordinatio*:

> Again, for any contradiction regarding future contingents, God had determinate knowledge that one part was going to be. Therefore, He wills the same part to be going to be. Therefore, since He had determinate knowledge of a future evil deed, He wills that evil to happen. Therefore, etc.

And the response, in effect, rejects the explanation that God eternally knows it because He eternally wills it:

> ...I deny the inference. For there are many contradictions with respect to which God's will is neutral—e.g., in all those in which there is an affirmative concerning evil and a negative concerning good. Thus, He neither wills it nor does not will it. And this applies not only in relation to evils, but also in relation to goods that do not come to pass. For His will does not act concerning them. And although He neither wills them nor wills against them, nevertheless, it does not follow that the intellect is neutral; indeed He determinately apprehends one part of the contradiction.[45]

But no alternative account is offered in this context of how such divine knowledge is possible.

## 5. OCKHAM ON THE DETERMINATE TRUTH OF PROPOSITIONS REGARDING FUTURE CONTINGENTS

Where Aquinas and Scotus hold that God is timeless, Ockham maintains that temporal predicates can be ascribed to Him nonmetaphorically. Thus, Ockham does not try to solve the foreknowledge problem by denying that God's eternal knowledge of creation is genuine foreknowledge. Further, where Aquinas says that God eternally knows the creation because He eternally

45. (Wadding XI, 237).

sees created *things* in their own determinate existence, Ockham insists that the primary object of knowledge is determinately true propositions. And he recognizes a special problem for divine foreknowledge in Aristotle's fatalistic arguments in *De interpretatione*, chapter 9. Following standard medieval interpretation, Ockham ascribes to Aristotle

(K) $x$'s being $A$ at $t_m$ is determinate at $t_n$, if and only if there is no potency in things at $t_n$ for $x$'s not being (having been, being going to be) $A$ at $t_m$.

Things actual in the past or present are determinate according to (K); future contingents are not. Suppose, for example, that Peter's denying Christ at $t_m$ is future relative to $t_n$ and contingent in such a way that there is still both a potency in things at $t_n$ for Peter to deny Christ at $t_m$, and a potency in things at $t_n$ for Peter not to deny Christ at $t_m$. It follows from (K) that it is not determinate at $t_n$ that Peter will deny Christ at $t_m$, and not determinate at $t_n$ that Peter will not deny Christ at $t_m$. Nevertheless, the matter will be settled by what is real or actual at some time or times: viz., by Peter's actual act of denying Christ at $t_m$; and it will become determinate *then*. Similarly for other future contingents. But Aristotle maintains that propositions are true or false insofar as they correspond or fail to correspond with reality. Since, according to (K), everything past and present is determinate, propositions solely about the past or present have determinate truth-value. The same goes for propositions about future things that are necessitated by past or present things, but not for singular propositons about future contingents. That is,

(L) '$x$ is (was, will be) $A$ at $t_m$' is determinately true at $t_n$, if and only if there is no potency in things at $t_n$ for $x$'s not being (having been, being going to be) $A$ at $t_m$

and

(M) '$x$ is (was, will be) $A$ at $t_m$' is determinately false at $t_n$, if

and only if there is no potency in things at $t_n$ for $x$'s being (having been, being going to be) $A$ at $t_m$.

As Ockham expounds him, Aristotle reasons that

> ...Expressions are true according to the way in which real things signified by the expressions are. But the thing that is signified by a future contingent [proposition], on the basis of which it is fortuitous, is no more determined to be going to be than to be going not to be. Therefore, the proposition signifying it is no more true than false. Nevertheless, the Philosopher adds that although it is necessary that one part is true and the other false—i.e., although the disjunctive is true—nevertheless, neither part is determinately true or determinately false. The Philosopher's whole meaning, therefore, is that as regards future contingents, neither part is determinately true or false, as the thing itself is determined neither to be going to be nor to be not going to be.[46]

Since future contingents will be rendered determinate in one way or the other at the future time in question, the disjunction of a singular future contingent proposition and its denial is always true. But since, so long as they are future, such contingents are indeterminate and represent a double potency, for opposites, in the way things are, there must be a corresponding gap in truth-values. Hence singular propositions about future contingents are neither determinately true nor determinately false. Given this allegedly Aristotelian specification of truth-conditions, if all singular propositions did have determinate truth-value from eternity, then there neither are nor ever were any future contingents, but everything that comes to pass was necessitated from eternity by something determinate and actualized in the past. On the other hand, if anything does or ever did come to pass contingently—in the sense that before it came to be it was neither determined to come to be nor determined not to come to be—then not every singular proposition had determinate truth-value from eternity.

46. *Commentary on 'De interpretatione'*, chap.9, trans. in *Predestination, God's Foreknowledge, and Future Contingents*, Appendix II, 105; *Expos. Periherm.*, I, c.6, sec.14, (OPh II, 421).

On the medieval reading, Aristotle's choice was unhesitating: he insisted on future contingency to preserve the freedom of human action and the efficacy of deliberation. Apparently, he thought that if everything came to pass of necessity,

> ...there would be no need to deliberate or take trouble, since from the fact that it is determined [it follows] that it will happen as it was determined from the outset, whether or not we deliberate.[47]

The reasoning here is surprisingly fallacious: if everything came to pass of necessity, not only would we be determined by something past to act as we do, we would also be determined to deliberate as we do; and if our deliberations bore a certain relation to our actions, this would likewise be because they were necessitated to do so by something real or actual in the past. In any case, they understood Aristotle to conceive of human freedom in such a way that future free human actions are future contingents. Ockham even goes so far as to assert that "...nothing of which the Philosopher speaks here is fortuitously contingent except what is in the power of someone acting freely or what depends on such an agent..."[48] According to his medieval interpreters, Aristotle concluded that the law of excluded middle admitted of a counter-instance where future contingents are concerned and would have held that God cannot have complete and determinate foreknowledge from eternity of the whole course of world history.[49]

Ockham's solution is, in effect, to replace (K) with

(N) $x$'s being $A$ at $t_m$ is determinate at $t_n$, if and only if *at some time or other* there is (was, will be) no potency in

47. Ockham, *Commentary on 'De interpretatione'*, chap.9, trans. in *op. cit.*, Appendix II, 101; cf. *Expos. Periherm.* I, c.6, sec.11, (OPh I, 418).

48. *Commentary on 'De interpretatione'*, chap.9, trans. in *op. cit.*, Appendix II, 106.

49. E.g., *ibid.*, trans. in *op. cit.*, Appendix II, 105–106; cf. *Expos. Periherm.* I, c.6, sec.15, (OPh II, 421); *Predestination, God's Foreknowledge, and Future Contingents*, Assumption 5, (Adams and Kretzmann trans., O, 47–48), (OPh II, 516).

things for $x$'s not being (having been, being going to be) $A$ at $t_m$.

(N) allows that a thing future relative to $t_n$ may be determinate at $t_n$, even if nothing real or actual in the past or present relative to $t_n$ necessitates its future existence, provided that something that exists *at some time or other* settles its future existence. Thus, whereas the notion of being determinate is time-relative on (K), it is only trivially time-relative on (N): for the fact that something—e.g., Peter's denial of Christ—is actual at some time or other suffices on (N) to make it determinate at any and every time.

Retaining the fundamental thesis of Aristotelian truth-theory —viz., that propositons are determinately true or false as they correspond or fail to correspond with determinate things, Ockham likewise replaces (L) and (M) with

(O) '$x$ is (was, will be) $A$ at $t_m$' is determinately true at $t_n$ if and only if ⌜at some time or other⌝ there is (was, will be) no potency in things for $x$'s not being (having been, being going to be) $A$ at $t_m$

and

(P) '$x$ is (was, will be) $A$ at $t_m$' is determinately false at $t_n$, if and only if ⌜at some time or other⌝ there is (was, will be) no potency in things for $x$'s being (having been, being going to be) $A$ at $t_m$.

Whereas (L) and (M) give rise to truth-value gaps where future contingents are concerned, (O) and (P) close these gaps and restore the law of excluded middle. And if it is always the case that one or the other part of a contradiction regarding future contingents is determinately true and hence knowable, God's universal foreknowledge can be preserved.

Further, Ockham maintains, this solution preserves the efficacy of human deliberation. For while (L) and (M) render the principle

(Q) Every proposition true (false) about the present relative to one time has corresponding to it a necessary (impossible) proposition about the past relative to a later time,

true, (O) and (P) do not. According to (L) and (M), the determinate truth (falsity) of proposition at a time is settled by something real or actual in the past or present relative to that time and so by something past relative to any later time. Hence, if '*p* is true' is true (false) now, '*p* was true' will be necessary (impossible) at any later time. By contrast, (O) and (P) stipulate only that the determinate truth (falsity) of proposition at a given time must be settled by what is real or actual at some time or other. If, for example, 'Peter will deny Christ at $t_m$' was determinately true from eternity, it may be that there is a potency for Peter's not denying Him at all times before $t_m$. In such cases, the proposition is true in such a way that it can be false and can never have been true, since nothing real or actual excludes the potency for the opposite.[50] Consequently, the past determinate truth of such propositions does not fall under the necessity of the past. Ockham makes this consequence explicit in the following passage:

> Assumption 3. Some propositions are about the present as regards both their wording and their subject matter (*secundum vocem et secundum rem*). Where such propositions are concerned, it is universally true that every proposition has [corresponding to it] a necessary one about the past—e.g. 'Socrates is seated', 'Socrates is walking', 'Socrates is just', and the like.
>
> Other propositions are about the present as regards their wording only and more equivalently about the future, since their truth depends on the truth of propositions about the future. Where such [propositions] are concerned, the rule that every true proposition about the present has [corresponding to it] a necessary one about the past is not true...[51]

50. E.g., *ibid.*, q.1, (Adams and Kretzmann trans., E, 42), (OPh II, 512); q.2, a.4, (Adams and Kretzmann trans., L, 67), (OPh II, 523).

51. *Ibid.*, Assumption 3, (Adams and Kretzmann trans., M, 46–47), (OPh II, 515); cf. *Ord.* I, d.38, q.1, (OPh II, 587), trans. in *op. cit.*, Appendix I, P, 92.

Apparently, a proposition of whatever tense is about the future as regards its subject matter (*secundum rem*), if it is exponible by such (see Part Two, chapter 11 above), the way 'God foreknew from eternity "Peter will deny Christ" ' is. Ockham writes, "just as this or that future contingent contingently will be, so God knows that it contingently will be, for if He knows it, He can *not* know that it will be."[52] And if His past foreknowledge of future contingents does not fall under the necessity of the past, the Aristotelian argument that He cannot have determinate knowledge of them fails.

## 6. WHETHER GOD'S KNOWLEDGE OF FUTURE CONTINGENTS IS MUTABLE?

It may seem that Ockham's account has definite liabilities of its own, however. For it allows future contingent propositions to be true and known by God, but only in such a way that while true they can be false and can never have been true, and while known can *not* be known and can never have been known. Does this mean that their truth-value and hence God's knowledge of them can change?

Ockham devotes the whole of the short question five of *Predestination, God's Foreknowledge, and Future Contingents* to showing that his alternative truth-conditions do not have this consequence. His argument may be set out as follows: let $p$ be a contingent proposition about a future time $t_n$, and let $t_i$ be earlier than $t_m$ and $t_m$ earlier than $t_n$.

Suppose

1. $p$ is determinately true at $t_i$, and at $t_m$ $p$ changes from truth to falsity.

2. Therefore, not-$p$ is true at $t_m$. (1)

52. *Predestination, God's Foreknowledge, and Future Contingents* q.2, a.4, (Adams and Kretzmann trans., L, 67), (OPh II, 530).

3. There is no reason why a contingent proposition about the future should be true at one time before the future time in question and not at another.

4. Therefore, if a contingent proposition about the future is true at a given time before the future time in question, it is true at every time before that future time. (3)

5. Therefore, not-$p$ is true at $t_i$. (2 and 4)

6. Therefore, both $p$ and not-$p$ are true at $t_i$. (1 and 5)

7. Therefore, $p$ does not change from truth to falsity at $t_m$. (1 and 6)[53]

Ockham rests the crucial premiss 3 on the familiar rule from Aristotle's *Categories*, "Propositions do not change from truth to falsity except as a result of a change on the part of a thing."[54] There could conceivably be such a change before $t_n$, however only if something real or actual in the past or present relative to $t_i$ excluded the potency for not-$p$'s being true, and then something past or present relative to $t_m$ actualized the potency for not-$p$'s being true to the exclusion of that for $p$'s being true. But by hypothesis, $p$ is a contingent proposition about a time $t_i$ future relative to $t_i$ and $t_m$, so that there is *nothing* prior to $t_i$ that excludes either potency. A fortiori, it is not the case that something first excludes the one, and then something else excludes the other.

Applying the result to God's knowledge of future contingents, Ockham writes,

> If, however, you understand $A$ to be a contingent proposition about the future, the proposition [that whoever does not know $A$ and can know $A$ can begin to know $A$] is not true, for its being true requires that two propositions—'God does not know $A$' and 'God does know $A$'—be true successively, and they cannot be true successively. For just as nothing

53. Cf. *ibid.*, q.5, (Adams and Kretzmann trans., A, 78), (OPh II, 538).
54. *Ibid.*; see Part One, chapter 5 above.

is known by God unless it is true, so also everything true is known by God, and therefore if *A* is true, it was always true and hence always known by God. Therefore, furthermore, 'God does not know *A*' was never true. Consequently, the conclusion 'God can begin to know *A*' does not follow, for it would never follow unless first 'God does not know *A*' and after that 'God does know *A*' were true.[55]

Thus, the conditions specified in (O) and (P) make the truth-value of future contingents and God's knowledge of them no more unstable than (L) and (M) do.

## 7 WHETHER GOD'S KNOWLEDGE IS CERTAIN AND INFALLIBLE?

Aquinas and Scotus have both attempted to explain how God's determinate knowledge of future contingents can be certain and infallible, by supposing that there is something eternally given—whether the created things themselves or God's own choices—which God eternally sees and which renders His knowledge about future things incorrigible. According to Ockham, however, nothing that exists from eternity excludes the possibility of falsehood for future contingent propositions. What alternative explanation can he give of how God knows such propositions with certainty?

Ockham finds this matter genuinely problematic. He writes,

> Assumption 6. It must be held beyond question that God knows with certainty all future contingents—i.e., He knows with certainty which part of a contradiction is true and which false. (Nevertheless, all such propositions as 'God knows that this part, or that part, of the contradiction is true' are contingent, not necessary, as has been said before.)
>
> It is difficult, however, to see how He knows this [with certainty] since one part [of the contradiction] is no more determined to truth than the other...[56]

55. *Ibid.*, q.2, (Adams and Kretzmann trans., J, 65), (OPh II, 528); cf. (Adams and Kretzmann trans., E, 59–60), (OPh II, 524).

56. *Ibid.*, Assumption 6, (Adams and Kretzmann trans., P, 48), (OPh II, 516).

And after rejecting Scotus's account, Ockham admits that "it is impossible to express clearly the way in which God knows future contingents..."[57] Nevertheless, rather than say nothing, he suggests that

> ...the following way [of knowing future contingents] can be ascribed to God. Just as the [human] intellect on the basis of one and the same [intuitive] cognition of certain non-complexes can have evident cognition of contradictory contingent propositions such as '*A* exists' and '*A* does not exist', in the same way it can be granted that the divine essence is an intuitive cognition that is so perfect, so clear, that it is an evident cognition of all things past and future, so that it knows which part of a contradiction [involving such things] is true and which part false.[58]

Ockham reminds his reader of his own doctrine that in human knowledge, an intuitive cognition of Socrates is a cognition by virtue of which one has evident knowledge that Socrates exists when he exists, or evident knowledge that Socrates does not exist if Socrates does not exist then (see Part Three, chapter 13 above). Since every possible particular creature is an object of God's thought (see chapter 24 above), Ockham is proposing to regard the divine act of understanding as an intuitive cognition of all of them and hence as an act by virtue of which God can have evident knowledge that they exist when they exist and evident knowledge that they do not exist when they do not exist. Unfortunately, the analogy breaks down at a crucial point. For our perfect intuitive cognitions suffice to cause evident judgments about the present only. Given that I have an intuitive cognition of Socrates, whether I am caused to judge that Socrates exists or that he does not exist depends on whether Socrates exists, is present, and acts together with the intuitive cognition to cause the former judgment in me. Since creatures do not exist from eternity, the most this analogy could explain is how God knows from eternity that they do not exist. In fact, given that Ockham subscribes to the doctrine of divine impassibility, he should not

57. *Ibid.*, (Adams and Kretzmann trans., P, 50).
58. *Ibid.*, (Adams and Kretzmann trans., P, 50), (OPh II, 518).

employ the analogy to explain even that. Ockham might have better compared God's understanding of creatures with the imperfect intuitive cognitions by which he says that we make evident judgments about the future.[59] But this analogy will not shed any light on *how* God knows future contingents with certainty, since Ockham provides no account of how *we* know them on the basis of such promonitory cognitions either. The truth is that Ockham does not take himself to have offered any explanation, because he does not see how any could be given.

The question of *how* God has certain and infallible cognition of future contingents is a problem of divine psychology about which it is not surprising that humans should be both curious and ignorant. The same considerations give rise to a further difficulty, however: that of whether it is even logically or metaphysically possible that God should have such knowledge. For to say that God is infallible is, by (D), to say that it is logically impossible that He should be mistaken. But it seems that God could not have known from eternity that Peter would deny Christ at $t_n$, unless He judged from eternity that Peter would deny Christ at $t_n$. If God's judgments are analogous to ours, for Him to judge that Peter would deny Christ at $t_n$ is for His act of understanding to be determinately directed in a certain way towards the proposition 'Peter will deny Christ at $t_n$' rather than the proposition 'It is not the case that Peter will deny Christ at $t_n$'. If so, and if God is a temporal being, then it seems that the proposition 'God judged from eternity that Peter would deny Christ at $t_n$' was always a necessary proposition about the past. But if 'Peter will deny Christ at $t_n$' was a contingent proposition about the future for all times before $t_n$, then its truth and the correctness of God's judgment was before $t_n$ something that had yet to be settled by what would be real or actual in the future. Thus, at any time before $t_n$, it was still possible that God's judgment from eternity that Peter would deny Christ at $t_n$, should turn out to be false—in which case, His judgment about that future contingent state of affairs was not infalli-

59. *Rep.* II, q.16, (OTh V, 363).

ble—contrary to (D).

Ockham's reply would be that since God's judgments are all infallible, 'God judges that *p* is true' is expounded in part by '*p* is true', just as much as 'God knows that *p* is true' is. And if *p* is a future contingent proposition, then 'God judges that *p* is true' will also be a future contingent proposition, so far as its subject matter is concerned (*secundum rem*). Ockham can sustain the latter claim, however, only if he distorts the analogy between the intentionality of divine and human mental acts by denying that

(G) Where there is a potency for opposites, the potency for *p* (not-*p*) does not survive the reduction of the potency for not-*p* (*p*) to act

applies to divine judgments. Apparently, this move would have to be bolstered by the further bizarre assumption that nothing real about the divine act of judgment, considered as it really is in itself, determines whether it is directed towards *p* or towards not-*p* instead. Such a thesis had a precedent in the endorsement of Robert Grosseteste, and it would not be the only respect in which Ockham has pronounced the intentionality of divine mental acts mysterious (see chapters 24 and 28).

## 8. CAN A POTENCY FOR OPPOSITES COEXIST WITH ACT? AN ALTERNATIVE SOLUTION

Our examination of Aquinas, Scotus, and Ockham has shown that the problems about the determinateness, certainty, and infallibility of God's knowledge of future contingents including human free choice and action, are generated by the assumption that

(G) Where there is a potency for opposites, the potency for *p* (not-*p*) does not survive the reduction of the potency for not-*p* (*p*) to act.

Even in the middle ages, however, (G) had its detractors (see

chapter 28 below). Does not their approach immediately dissolve any problems about reconciling

(A) God has eternal and immutable determinate knowledge of the whole course of created world history

with

(F) Human beings are morally responsible for their actions only if they are free in a sense that is not compatible with their actions being completely determined by anything or anyone else?

The answer is that it does not. For the medieval motivation for denying (G) lay in the desire to preserve the immutability of God's power. No matter what God wills, has willed, or shall will, He wills it in such a way that it is still (eternally) possible that He never have willed it. Thus, although God willed the existence of Adam, He still has the power now (eternally) never to have created Adam, and there is still a potency in things for Adam never to have existed. Like Scotus's solution, this rejection of (G) does preserve the contingency of propositions about created world history—whether those about the past, the present, or the future. But, as Ockham argued against Scotus, real contingency located in divine power alone is not enough to reconcile (A) with (F), which stipulates that human free choice involves a self-determining power for opposites in the human agent itself.

Those who find exceptions to (G) thinkable must develop their idea by allowing either that the potency for opposites in human agents can coexist with complete causal determination of his choices and actions, or that such a potency for opposites survives the ontological determinateness of his choices and action. The former is inadequate to salvage human freedom as defined by (F), because the agent's potency must not only be for opposites but also be self-determined. Pursuing the second suggestion, someone might revive Aquinas's view that all temporalia are ontologically determinate, and hence seen by God,

eternally, while dropping the notion that God is the first
of human free choices and actions. So far as I know, hov
the middle ages left this approach untried.

# 28

# Divine Omnipotence Analyzed

Attacks on "Ockham's omnipotent God" seem at once to have occasioned some of the purplest prose in Ockham literature[1] and to have been the source of bewilderment for others.[2] If Ockham's nominalism is controversial, surely his belief in divine omnipotence should not be. After all, the principal creeds of the Church confess "God, the Father Almighty," and their affirmation has Biblical roots. The Hebrew Bible stresses God's sovereign control over creation: His is the power to make and govern the universe. Not only is God thought to have control over the natural order, salvation depends on God as well. When Jesus remarks that "all things are possible with God," the disciples have just asked "Then who can be saved?" and Jesus has said "With men it is impossible."[3] If divine omnipotence is an article of faith that Ockham shared with his contemporaries and predecessors (including St. Anselm and St. Thomas Aquinas), how can he be invidiously compared with them for giving assent to it?

So far from rejecting divine omnipotence, medieval theologians did not rest content with pre-analytical Biblical statements of it. Aquinas writes that

> ...all commonly confess that God is omnipotent. But the definition of omnipotence seems difficult to assign. For when it is said that God

1. E.g., Gordon Leff, *Medieval Thought: St. Augustine to Ockham,* (Harmondsworth, Middlesex, 1958), 289; Etienne Gilson, *The Unity of Philosophical Experience*, chap.3, 62–91.

2. E.g., Sebastian Day, *Intuitive Cognition: A Key to the Significance of the Later Scholastics*, chap.3, 160–68.

3. Mark 10:16–17.

> can [do/make/produce] all things, it can be doubted what is comprehended in the distribution...[4]

Medieval theologians tried to refine their formulations of the doctrine in the face of various counterexamples, and attempted to prove it in opposition to the Arab commentators on Aristotle. My focus in this chapter will be on their attempts to arrive at a theologically adequate but philosophically coherent understanding of divine omnipotence. In the next chapter, I shall return to the issues behind contemporary criticism of Ockham's use of it.

## 1. PRELIMINARY MOVES TOWARDS AN ANALYSIS OF DIVINE OMNIPOTENCE

In the above quoted passage, Aquinas notes that while we are at first tempted to advance the following straightforward analysis of omnipotence:

(D1) God is omnipotent, if and only if God has the power to do/make/produce[5] anything,

doubts arise about the scope of 'anything'. In particular, if 'anything' ranges over logical impossibilities, (D1) assigns to an omnipotent being the power to make the same thing simultaneously to be and not to be, to make opposites inhere in the same thing simultaneously, to make a being exist without some of its essential properties, to bring it about that $p$ and not-$p$ are simultaneously true, and to bring it about that within Euclidean geometry a straight line is not the shortest distance between two points.[6] Since such things cannot obtain, they cannot be brought about. And if by (D1) an omnipotent being has

4. *Summa theologiae* I, q.25, a.3.

5. The Latin verb is '*facere*', which is sometimes better translated by 'do', sometimes by 'make', 'produce', or 'bring about'.

6. Part of Aquinas's list in *Summa contra gentiles* II, c.25, of what an omnipotent being cannot do.

the power to bring them about, it follows that no being can be omnipotent either.

Aquinas's unhesitating response is that 'anything' must not be taken to range over logical impossibilities, but only over logical possibilities. He says that God can do anything that is possible absolutely, but He cannot do anything a correct description of which involves a contradiction. Nevertheless, this does not constitute a genuine limitation on divine power, any more than His inability to know falsehoods suggests a defect in divine knowledge.[7] For it would be more correct to say that logical impossibilities are not something to be done or produced than to say that He cannot do or produce them.[8] Peter Damian may have disagreed with Aquinas's assessment, when he wrote,

> For it is impossible for contraries to exist together in the same subject. Moreover, this is correctly said to be impossible if one refers to a lack of ability in the nature. But the remark should not be applied to the Divine Majesty. For the one from whom nature takes its origin, easily removes the necessity of nature when He wills. The governor of created things is not subject to the creator's laws; and the author of nature turns the natural order according to His chosen purpose. The one who subordinates created things to the dominion of nature has reserved the obedience of the subjected nature for His own commanding dominion.[9]

If the simultaneous inherence of contraries in the same subject is only a natural necessity, and the author of natures could change it at will, it seems that God has the power to make contraries inhere in the same subject simultaneously. I know of no other medieval philosophers who would have hazarded such a claim, however. Certainly, Ockham agreed with Aquinas; in *Quodlibeta* VI, q.6, he refers to

> the article of faith, 'I believe in God, the Father Almighty', which I understand this way: that anything that does not include an obvious

7. *In I Sent.*, d.42, q.2, a.2, (Parma I, 991).

8. *Summa theologiae* I, q.25, a.3.

9. *De divina omnipotentia in reparatione corruptae, et factis infectis reddendis*, c.x, (PL, 145, col.612).

contradiction should be attributed to divine power.[10]

And negatively, he flatly states in *Quodlibeta* IV, q.14 that 'God cannot bring it about that any contradictories are true in an instant' or that contraries inhere in the same subject simultaneously.[11]

To make this restriction on the scope of 'anything' explicit, then, (D1) should be replaced with

(D2) God is omnipotent, if and only if God has the power to do or make anything logically possible.

But doubts may arise as to whether (D2) narrows the scope of 'anything' enough. For the logically necessary is as free from contradiction as the logically contingent is. Yet it seems doubtful in many cases whether what is logically necessary is the kind of thing that could be brought about or produced. For instance, if God cannot bring it about that *p* and not-*p* are simultaneously true, one may wonder whether He can bring it about that they are not simultaneously true. The medievals were concerned with another example—God's own existence. For they believed God's existence was not only logically possible, but logically necessary. Yet, they wanted to insist that God, by His very essence, is not the kind of thing whose existence could be brought about or produced. Aquinas concludes that "God cannot produce God" or anything else that is not the kind of thing that can be produced.[12] Scotus likewise explains that the Catholics understand a being to be omnipotent "because it can [do/make/produce] whatever is possible *and not necessary of itself*, and can [do/make/produce] such things immediately, without the concurrent action of any other cause."[13] And notwithstanding the above quoted passage from *Quodlibeta* IV,

10. Cf. *Ord.*, Prologue, q.1, (OTh I, 58–59).
11. *Rep.* IV, q.10–11, (OTh VII, 204).
12. *Summa contra gentiles* II, c.25.
13. Italics mine, *Lectura* I, d.42, q.u, n.11, (Vaticana XVII, 524–25); cf. *Ord.* I, d.42, q.u, n.9, (Vaticana II, 343–44).

q.4, Ockham was sensitive to this point himself. In discussing various details of the doctrine of the Trinity, he writes,

> ...I say that the omnipotence that we are now speaking about does not have to do with everything that does not involve a contradiction. That is to say, an omnipotent being cannot produce everything that does not involve a contradiction because it cannot produce God. Nevertheless, an omnipotent being can bring about everything doable/makeable/producible (*factibile*) that does not involve a contradiction, and everything other than God that does not involve a contradiction.[14]

And in *Quodlibeta* VI, q.1, he says that God's power can be taken to be 'the power to do/make/produce everything, the doing/making/producing of which does not involve a contradiction.[15] Thus, their considered view seems to be that 'anything' should be restricted to what is both logically possible and doable/makeable/producible.

The above quoted passage from Scotus calls attention to another defect in (D2): viz., that it does not make clear whether to be omnipotent, it is enough that God should be able to produce such things by some means or other, either mediately or immediately; or whether He must be able to produce them immediately and acting alone. Scotus observes that sometimes 'omnipotence' is understood in such a way that the former would suffice.[16] For instance, some philosophers might want to say that the first cause was omnipotent in this sense, even though they believed that the first cause acting alone could produce only one effect, but acting together with other causes could produce everything else producible. Nevertheless, Scotus points out that this is not what the Catholics mean when they speak about omnipotence. In their view, if God could produce a human being only when aided by the concomitant activities of human parents and/or the sun, He would not be omnipotent.

14. *Ord.* I, d.20, q.1, (OTh IV, 36).

15. "...Aliter accipitur posse pro posse facere omne illud quod non includit contradictionem fieri..."

16. *Lectura* I, d.42, q.u., n.6, (Vaticana XVII, 524); *Ord.* I, d.42, q.u, n.8, (Vaticana VI, 342–43); *Quodl.* q.7, (Wadding XXV, 284).

Rather He must be able, acting alone, to produce any possible producible. In *Quodlibeta* VI, q.6, Ockham refers to "that famous thesis of the theologians: that whatever God produces by means of secondary causes, He can produce and conserve immediately without them." And in *Quodlibeta* IV, q.22, he writes,

> ...I base myself on the article of faith 'I believe in God the Father Almighty', from which article I take the proposition 'Whatever God produces by means of secondary causes, He can produce and conserve immediately without them'...[17]

And Ockham invokes this premiss repeatedly in his discussions of philosophical and theological issues.[18]

These considerations would suggest that their conception of divine omnipotence is better expressed by

(D3) God is omnipotent, if and only if God has the power, acting alone, to bring about anything that is logically possible and doable/makeable/producible.

## 2. CAN GOD DO/MAKE/PRODUCE ANYTHING THAT CREATURES CAN?

If an omnipotent God has the power to do/make/produce anything that can be done/made/produced, it follows a fortiori that He can do/make/produce anything that a creature can do/make/produce. Once again, there are apparent counterexamples, and Ockham's handling of them leads to further questions about the scope of 'anything'. Objectors note, for example, that it is within the power of rational creatures (i) to sin, (ii) will evils, and (iii) command what is unjust. Again, Adam can (iv) bring it about that Adam acts meritoriously. Similarly, plants and animals (v) die. It seems, then, that sinning, willing evils,

17. (OTh IX, 404).

18. *Ord.*, Prologue, q.1, (OTh I, 72); q.10, (OTh I, 294); q.11, (OTh I, 313); d.1, q.3, (OTh I, 417); *Quodl.* IV, q.23; V, q.5; VI, q.12; VII, q.3.

commanding what is unjust, bringing it about that Adam acts meritoriously, and dying are all logically possible and doable. Yet it seems impossible because contrary to God's essential goodness that He should sin, will evils, or command what is unjust; and it is incompatible with His essential incorruptibility that He should die. Further, it is a contradiction that God acting alone should bring it about that Adam should act meritoriously. For no act of Adam's will count as meritorious unless it is in part a product of Adam's free activity. And no act produced by God acting alone is even in part a product of Adam's free activity. Hence, it seems that God cannot do everything that creatures can do and so is not omnipotent in the sense formulated in (D3).

One traditional response charged that the reasoning about examples (i), (ii), (iii) and (v) was misled by our ordinary ways of talking. When we say that someone is *able* to sin, will evils, command what is unjust, and die, we may seem to be assigning to him a set of active powers to do things. In fact, we are asserting only that he has certain weaknesses and is liable to be acted upon by others in various ways. The liability to die is seen as a metaphysical weakness, a lack of power to resist the forces that tend to destroy it. And the "abilities" to sin, will evils, and command what is unjust were likewise seen as moral weaknesses and liabilities to be acted upon by the forces of adversity and perversity. Thus, Anselm writes,

> But how art thou omnipotent, if thou are not capable of all things? Or if thou canst not be corrupted, and canst not lie, nor make what is true false—as, for example, if thou shouldst make what has been done not to have been done, and the like—how art thou capable of all things? Or else to be capable of these things is not power, but impotence. For he who is capable of these things is capable of what is not for his good, and of what he ought not to do; and the more capable of them he is, the more power have adversity and perversity against him; and the less he has himself against these.[19]

Similar points are made by Peter Lombard.[20] And Aquinas

19. *Proslogium*, chap.7, (Deane trans., 12).
20. *Sentences* I, d.42, c.2, sec.3, and c.3, sec.1, (Rome, 1971, 295–96).

makes use of this thesis that the ability to sin is really a moral weakness and so is incompatible with omnipotence.[21] Thus, if "abilities" to sin, will evils, command what is unjust, and die, are not really abilities at all but rather the lack of certain powers, it will not follow that a God omnipotent in sense (D3) must have them. On the contrary, it follows that He must lack them. Hence, (i), (ii), (iii), and (v) are not genuine counterexamples to (D3).

This highly metaphorical response is unsatisfying, however. To be sure, there is some plausibility in the idea that the ability to die is not an active power but a liability to be acted upon, because a thing's death is usually something that happens to it and that is caused by something else. This is not always so, however. Some people commit suicide. And in any event, one is inclined to reply that merely to say that a being can die, is not to say that it will die or even that it lacks the power to resist the forces at work to destroy it. Perhaps it has the latter powers and will die only if it fails or chooses not to exercise them. Analogously, to say that a being can sin is not to say that it will sin or even that it lacks the power to resist the influences of adversity or perversity. Perhaps it has the power to resist them, but sins if it does not exercise that power. In any case, it seems the sinning is not always or merely a matter of failing to resist the influences of an external agent, but is sometimes an affair in which the agent takes its own initiatives.

Ockham's own reply is entirely different. Focus first on the example of (iv) the ability to bring it about that Adam acts meritoriously, and consider the inference 'God can produce every absolute and positive act by Himself alone, and Adam's meritorious act is an act of this sort; therefore, God can, by Himself alone, produce Adam's meritorious act'. Ockham says

21. *Summa theologiae* I, q.25, a.3, ad 2. Aquinas also suggests another solution: viz., that 'God can do what is depraved or sin, if He wills' is true by virtue of the necessary falsity of the antecedent. This does not really meet the objection, however, since we are able to will and do what is depraved or sin, and hence such volitions are logically possible and producible (*In I Sent.*, d.42, q.2, a.1, (Parma I, 982); *Summa theologiae* I, q.25, a.3).

that it contains

> ...a fallacy of figure of speech. For in the first proposition, there is one absolutely absolute term and in the minor there is subsumed a connotative term. In such arguments, there is a fallacy of figure of speech...[22]

The argument form 'All *A*'s are *B*'s; a *C* is an *A*; therefore a *C* is a *B*' is valid only on the assumption that substitutions for '*A*', '*B*', and '*C*' are absolute and not connotative terms (see Part II, chapter 10 above). For if the substitution for '*C*' were a connotative term, then its signification might be such as to allow it to supposit for something that the substitution for '*A*' supposits for, while its connotation rules out its suppositing for anything that the substitution for '*B*' supposits for. Ockham's suggestion is that this happens in the above argument (where '*A*' is 'absolute and positive act', '*B*' is 'producible by God acting alone', and '*C*' is 'meritorious act'). For while 'meritorious act' does signify absolute and positive acts primarily, it connotes that the agent whose acts they are is at least a free partial cause of them. And this connotation prevents 'meritorious act' from suppositing for anything which 'producible by God acting alone' supposits for. If Adam had freely willed to refrain from eating the apple Eve offered him, it would have been a meritorious act. Such a volition was obviously producible. Hence, it follows by (D3) that God could have produced it acting alone. This inference Ockham would accept. But if God acted alone to produce it, it would not fit all of the descriptions it would have to fit if it had been produced in part by Adam—in particular the description 'meritorious act'.[23] Ockham's implied solution to the apparent counterexample in (iv), then, is to say that (D3) entails that God can, acting alone, produce any producible act or for that matter any producible thing, but it does not guarantee that such things produced by God acting alone would fit just

22. *Ord.* I, d.42, q.u, (OTh IV, 621–22).

23. Cf. *Quaest. variae*, q.1, (OTh VIII, 17–18); *Rep.* III, q.5, (OTh VI, 153–54).

any description that they would fit if a creature were a partial cause.

Ockham deals with objection (v)—that creatures can die while God cannot—in an analogous fashion:

> ...In the same way, 'to die' does not signify precisely the destruction of something, but rather the destruction of that thing which is said to die. Thus, although He could somehow destroy the thing that dies, nevertheless, He Himself cannot die.[24]

Ockham's idea is that (D3) should be taken to imply that God can destroy everything destructible, but not that God's destructive acts can fit just any of the descriptions that the destructive acts of creatures can. God Himself, as essentially incorruptible, is essentially indestructible. Since 'to die' implies the destruction of the thing that is said to die, no destructive act of God's will count as *His* dying. This does not constitute any genuine limitation on His destructive powers, however, any more than His "inability" to produce a round square or to act alone to produce a meritorious act in Adam, constitutes a genuine limitation on His productive power.

Again, according to Ockham, to say that God cannot sin is not to imply that there is something doable that He cannot do or some action that He cannot perform, but only that there is some description that none of His actions can fit.

> ...For 'sin' signifies not only the thing that is produced, but also that something is obligatory and its opposite is done or omitted...[25]

To sin is to act contrary to one's obligations. But according to Ockham's ethics, God does not have any obligations to anyone and so cannot act contrary to His obligations no matter what He does (see Part V, chapter 30 below).

As for examples (ii) and (iii)—that creatures can will evils and issue unjust commands, while God cannot—Ockham sees a double response: (1) First,

24. *Ord.* I, d.42, q.u, (OTh IV, 622).
25. *Ibid.*

> ...someone could say that literally it ought to be granted that God wills evil. For taken literally, this denotes only that God wills something that is evil—e.g., He wills some act that is done by someone evil or done maliciously—and consequently the act is evil and thus He wills evil. That is, He wills an act and the act is evil.[26]

Suppose, for instance, that someone is motivated to almsgiving by vanity. The act will be an evil act because of its evil motivation. Nevertheless, the act of almsgiving is willed by God. And in general God is an immediate partial cause of every created volition. Since some such volitions are evil, it follows that God wills acts that are evil and so on this view wills evils. In the same way, He might be said to command evils or what is unjust.[27] Someone who took this line would insist, however, that the mere willing of evils or commanding of what is unjust does not count against the goodness of the agent who so wills or commands, but only willing such things maliciously or commanding them unjustly would.[28]

In the *Ordinatio*, Ockham is noncommittal as to whether this opinion is "true or false or erroneous, whether Catholic or heretical"[29] and concludes that

> ...according to the intention of the Saints, one should not grant that God wills evil, or that He produces evil. For whether they take such propositions literally or not, they understand them [to be equivalent to] the propositions 'God wills something maliciously or unjustly' and 'God produces something maliciously or unjustly'. The latter propositions admit of no good interpretation. For if these propositions were true, God would make something the opposite of which He was bound to do or will—which is altogether absurd.[30]

In the *Summa logicae* III–4, c.6, where he passes over this caution of the Saints, Ockham holds that 'God makes a sin', taken properly, means 'God makes something that is a sin' and so

26. *Ibid.*, d.47, q.u, (OTh IV, 681).
27. *Ibid.*, (OTh IV, 684–85).
28. *Ibid.*, (OTh IV, 682–83); *Rep.* II, q.3–4, (OTh V, 58–59).
29. D.47, q.u, (OTh IV, 684).
30. *Ibid.*

taken is true; but it is taken improperly for 'God does something that He ought not to do' and so taken it is false.[31] 'God wills evils' gets an analogous treatment.[32] As Ockham sees it, the fact that God cannot will anything maliciously or command anything unjustly—like the fact that He cannot sin—is merely a reflection of the fact that God has no moral obligations to anyone and so cannot act contrary to his obligations, no matter what He does. Yet this is no restriction on God's power to will or command, but rather on the descriptions that His volitions and commands could fit.

The common thread running through Ockham's treatment of examples (i)–(v) is that God can produce whatever is producible and destroy whatever is destructible and do whatever is doable, but that doesn't mean that what He produces or the acts that He performs will fit just any of the descriptions that analogous productions or actions by creatures would fit. But how should the latter proviso be reflected in the analysis of divine omnipotence?

Focussing on the 'produce' or 'make' interpretation of '*facere*', Ockham's reply to example (iv) suggests the following formulation:

(D4.1) God is omnipotent, only if (for every $x$, if $x$ is a possible and producible thing, then God has the power acting alone to produce $x$),

where substitutions for '$x$' are proper names or absolute terms and not connotative terms. (D4.1) says that God can produce anything that is possible and producible. But because of the restriction on substitutions for '$x$', (D4.1) does not commit us to saying that such things would, if produced by God, fit just any descriptions that they would fit if they were produced by a creature instead. Thus, we can infer from (D4.1) that God has the power acting alone to produce Socrates or a man, but not that He has the power acting alone to produce a meritorious act

31. (OPh I, 773–74).
32. (OPh I, 774–75).

or an act not produced by God or an act freely produced by a creature. But if, in Ockham's view, the right-hand side of (D4.1) states a necessary condition of divine omnipotence, it is hardly sufficient. For divine omnipotence is supposed to extend beyond the power to produce possible and contingent substances and qualities. He is likewise supposed to have the power to destroy them. And it seems clear from Ockham's handling of (v) that he would want to add

(D4.2) God is omnipotent, only if (for every $x$, if $x$ is possible and destructible, then God has the power acting alone to destroy $x$),

where proper names or absolute terms, but not connotative terms may be substituted for '$x$'. Presumably, if God has the power to destroy such things, His omnipotence likewise includes the power to prevent their existence in the first place:

(D4.3) God is omnipotent, only if (for every $x$, if $x$ can exist and can be prevented from existing, then God has the power acting alone to prevent $x$ from existing),

with the same restrictions on substitutions for '$x$' as above. Again, Ockham often alludes to God's ability, acting alone, simultaneously to produce (conserve) one and not produce (destroy) the other of a pair of really distinct things.

(D4.4) God is omnipotent, only if (for every $x$ and for every $y$, if $x$ and $y$ are each producible and destructible or preventable, and $x$ and $y$ are really distinct, then God has the power acting alone to produce $x$ and not produce $y$ and vice versa; and God has the power to conserve $x$ and destroy $y$ and vice versa),

where again only proper names and absolute terms may be substituted for '$x$'.

If (D4.1–4) accurately reflect Ockham's solution to the proposed counterexamples (iv) and (v), they do not—given

Ockham's ontology—assign enough power to God. For an omnipotent God is supposed to have not only the power, acting alone, to produce a planet, but also the power to give it one spatial location or another, to set it in motion at a certain velocity, to make it spherical rather than cubical, to make it weigh one billion tons instead of two billion tons, etc. But as we have seen in Part One and Four, it is Ockham's contention that no absolute term signifies that a thing has spatial location, that it is moving, that it has a certain shape or weight, etc. Rather all terms in the eight categories other than substance and quality, as well as some terms in the category of quality, are connotative terms, none of which can be substituted in (D4.1–4) to infer that God has the above-mentioned powers. Further, (D4.1–4) quantify over possibles, and we have seen how the texts do not make it clear that Ockham wanted to accept such an ontological commitment on his mental-act theory (see Part One, chapters 3–4, and Part Five, chapter 23). Ockham's ontology would thus give him incentive to seek an alternative to (D4.1–4).

One approach would be to understand 'anything' in (D3) to range over states of affairs rather than particular things, and hence to regard (D3) as equivalent to

(D5) God is omnipotent, if and only if God has the power, acting alone, to bring about any logically possible and producible state of affairs.

This formulation would be broad enough to capture all of the abilities assigned to an omnipotent God by (D4.1–4). Further (D5) implies that God has the power, acting alone, to bring it about that a planet has a certain spatial location at a given time, or that it moves with a certain velocity in an elliptical orbit around the sun, or that it is spherical and weighs one billion tons instead of two, or that it exists for a million years before colliding with a star—since all of the latter are logically possible and producible states of affairs. On the other hand, it does not imply that He has the power acting alone, to bring it about that God acting alone causes Adam's meritorius act, or that God causes something that God did not cause, or that God dies, or

that God takes a walk—since none of the latter is a logically possible state of affairs.[33]

The analysis in (D5) would seem to accommodate Ockham's handling of examples (i)–(iii) as well. For (D5) does not assign God any power to bring it about that God sins or that God wills evils maliciously or that God commands unjustly—since none of the latter is a logically possible state of affairs either. But if anything God did in producing logically possible, contingent states of affairs could count as sinning or willing evils maliciously or commanding unjustly, then God could by so acting bring about the above mentioned impossible states of affairs. Hence, it must be that nothing that God did by way of bringing about any logically possible, producible state of affairs could count as sinning, willing evils maliciously, or commanding unjustly.

It may be objected that (D5) is too permissive, just as (D1) and (D2) were. For the following is a consistently describable state of affairs: viz., that only three persons exist and that they all sin while taking a walk. Nevertheless, neither God nor anyone else can bring it about that only three persons exist and that they are taking a walk. For God is a necessarily existent Trinity of persons. Hence, if there are only three persons in existence, they will be divine persons. But it is logically impossible that God, who necessarily has no moral obligations, should sin and logically impossible that God, who is necessarily incorporeal, should take a walk.

This objection is not to the point, however. For in order for a state of affairs to be logically possible, it is not enough that some correct description of it is consistent. Rather, *every* correct description of it must be consistent. But while the state of affairs in the above objection admits of some correct and consistent description—viz., as the state of affairs in which only three persons exist and that they sin while taking a walk—it also has a correct but inconsistent description—viz., as the state of affairs in which God is the only person in existence and He sins while

33. An analysis such as (D5) is suggested by Peter Lombard's remarks in *Sentences* I, d.42, c.2, 294–95, and by Thomas Aquinas in *In I Sent.*, d.42, q.2, a.1, (Parma I, 998–99).

taking a walk. Hence it is not a logically possible state of affairs and therefore is not a counterexample to (D5).

A more telling objection to (D5) rests on the observation that Adam's acting meritoriously or something's having a creature as a partial cause, are logically possible, producible states of affairs. It follows from (D5) that God has the power, acting alone, to bring it about that Adam acts meritoriously and that God has the power, acting alone, to bring it about that something has a creature as a partial cause. But neither of these states of affairs will obtain unless God does not act alone but instead acts together with Adam or with some creature, respectively. Hence, it seems that (D5) has contradictory consequences.

One response to this reasoning would be to restrict the range of God's power to those logically possible, producible states of affairs, *no* correct description of which implies that God did not bring them about acting alone. This move would be too drastic, however. For any state of affairs that in fact is not brought about by God acting alone is in fact correctly described as a state of affairs not brought about by God acting alone. It would then follow that God does not have the power, acting alone, to bring about any state of affairs that He does not in fact act alone to bring about. Some medieval philosophers (notably Abelard) did offer independent arguments in support of this conclusion, and we shall examine them in section 4 below. For now it is enough to anticipate that Ockham wants to reject this conclusion and so could not go along with the suggested modification of (D5).

An alternative approach would be to distinguish between those kinds of states of affairs that logically cannot be brought about by God acting alone from those which logically can be, whether or not they in fact always are. Adam's acting meritoriously and something's having a creature as a partial cause are of the first sort. That the grass is red and that water is hot, are of the second sort. Given such a distinction, (D5) might be replaced with

(D6) God is omnipotent, if and only if God has the power acting alone to bring about any logically possible, pro-

ducible state of affairs such that it is not logically impossible that God should act alone to bring it about.

It will not follow from (D6) that God cannot bring about any states of affairs that He does not in fact bring about. To support this inference, one would need to add that the only logically possible, producible states of affairs that are such that it is not logically impossible that they should be brought about by God acting alone, are states of affairs that He actually brings about. On the other hand, it will not follow from (D6) that God has the power, acting alone, to bring it about that Adam acts meritoriously or that something has a creature as a partial cause. Perhaps Ockham was sensitive to these considerations; for in *Quodlibeta* VI, q.6, he treats whether '$x$ is brought about by God' is contradictory as a criterion for whether or not $x$ falls within the scope of divine power.

There is a further objection to consider, however. The need to replace or at least to supplement (D4.1–4) with (D6) arose because of Ockham's ontology, according to which size, shape, weight, location in place, motion, and time are not things really distinct from substance and quality. But (D5) and (D6) seem to quantify over states of affairs. Would Ockham have been happier with an ontological commitment to states of affairs than he was with the one to sizes, shapes, weights, places, motions, or durations really distinct from substances and qualities? As noted in chapter 25 above, Ockham makes an occasional allusion to "expressibles" (*enuntiabilia*) or "to what is denoted by a proposition"—both presumably ways of referring to what is signified by a proposition as a whole as opposed to what is signified by one of its parts. And while he does not explicitly discuss the ontological status of such expressibles, our discussion in Part One, chapter 5 suggests that he could have reduced states of affairs or expressibles to particular substances and/or qualities existing in a certain way. Such a reduction could render the ontological commitment to states of affairs in (D6) innocuous.

Alternatively, it might be suggested that Ockham replace reference to states of affairs with one to propositions. Thus,

(D5) and (D6) might be reformulated as follows:

(D7) God is omnipotent, if and only if, for every proposition $p$ (if $p$ is consistent and its truth can be brought about, God has the power, acting alone to bring it about that $p$ is true)

and

(D8) God is omnipotent, if and only if, for every proposition $p$ (if $p$ is consistent and its truth can be brought about, and $p$ does not entail that God does not act alone to bring about the truth of $p$, then God has the power, acting alone, to bring about the truth of $p$).

Just as Adam's acting meritoriously and something's having a creature as a partial cause are counterexamples to (D5) but not to (D6), so 'Adam performs a meritorious act' and 'Something has a creature as a partial cause' would be counterexamples to (D7) but not to (D8). (D7) and (D8) quantify over propositions, however; and if the number of propositions could be reduced to zero, (D7) and (D8) would be trivially true by virtue of having a false antecedent. We have already examined in chapter 26 how this difficulty could be averted on Ockham's objective-existence theory by letting the universe of discourse be all really existent or objectively existent propositions, and how on his mental-act theory it would have been a verbal rather than a doctrinal move for him to identify the divine mental act as a proposition equivalent in signifying to any and all created propositions. Since he did not actually make this identification, and since his theory of natural signification could not account for the divine mental act's being equivalent in signifying to any and all created propositions, however, he should have found (D5) or (D6) preferable to (D7) or (D8).

## 3. CAN GOD'S WILL BE OBSTRUCTED?

If God is conceived of as omnipotent, He is also understood

to exercise His power simply by willing. The question arises, then, of (A) whether God's will can be obstructed by any power, or (B) whether it is always implemented. To ask whether God's will can be obstructed by any power, is to ask whether there is a contradiction in saying that God wills *p* to be true and nevertheless someone else brings it about that *p* is false. And offhand, it would seem both blasphemous and inconsistent with the doctrine of divine omnipotence to give an affirmative answer to (A). If God exercises His power simply by willing, and yet someone has the power to bring about the opposite of what God in fact wills, it seems that the divine will, acting alone, does not have the power to produce such effects after all. On the other hand, the Scriptures seem to dictate an affirmative answer, since they record numerous violations of divine commands and prohibitions, and "the will whose command is not carried out is obstructed."[34] Again, various evils seem to be contrary to the divine will. Further, the Scriptures say that God wills all men to be saved. [35] But not all men are saved, according to medieval theology. Thus, it seems that the divine will is obstructed.[36]

(3.1) *Ways of Taking 'Divine Will'*. The traditional way of resolving this difficulty was due to John Damascene and Peter Lombard and was based on the recognition of numerous ways in which the expressions 'will of God' and 'God wills' are used in the Scriptures. And, in responding to (A), both Aquinas and Ockham for the most part adopt and develop their suggestions. Lombard begins by distinguishing a proper use of these terms to stand for an act of will that is identical with the divine essence, and their use as figures of speech to stand, not for this act, but for signs of it.[37] God's will, taken properly, is His will of what is well-pleasing to Him (*voluntas beneplaciti*) or His disposing will.[38] Ockham refers to the latter as "the will of the sign"

34. *Ord.* I, d.46, q.1, (OTh IV, 670).
35. I Timothy 2:4.
36. *Ord.* I, d.46, q.1, (OTh IV, 670).
37. *Sentences* I, d.45, c.5–6, 309–310.
38. Ockham, *Ord.* I, d.46, q.1, (OTh IV, 671); cf. Lombard, *Sentences* I,

(*voluntas signi*), whereas Lombard speaks more perspicuously of "signs of the will".[39] Lombard distinguishes five kinds of signs that are figuratively referred to as the divine will: prohibitions, commands, counsels, activity, and permission.[40] And following Lombard's lead, Ockham, writes,

> ...the noun 'will' and likewise the verb 'wills' or 'to will' are taken in various ways when they are attributed to God in the Sacred Scriptures. Thus, sometimes when it is said in the Sacred Scriptures that God wills [this], the whole proposition is equivalent to the proposition 'God commands this'. Similarly, sometimes when it is said that this is contrary to God's will, it is the same as to say that this is contrary to God's command or God's prohibition. Thus, the noun 'will' in the Sacred Scriptures sometimes has the same signification as the noun 'command', sometimes as 'prohibition', sometimes as 'counsel', sometimes as 'permission', sometimes as 'implementation'. Similarly, with respect to the verb 'wills' and verbs corresponding to the above five nouns...[41]

In a fuller discussion, Aquinas explains that commands and counsels are signs of the divine will by means of which the human will is directed towards its end, whereas prohibitions are signs of the divine will by which the human will is warned away from sin. Activity or implementation and permission have to do with whether or not a human being tends toward the end to which he is ordered. When someone does what is good, his activity is the will of God in that it implements the divine will; when he does evil, he is said to act according to divine permission.[42]

Wrestling with the Biblical claim that God wills every man to be saved, John Damascene felt compelled to distinguish between the antecedent and consequent disposing will of God.[43]

d.45, c.5, 309, and Aquinas, *In I Sent.*, d.45, q.1, a.4, (Parma VI, 360) and d.47, q.1, a.2, (Parma VI, 361–62).

39. *Sentences* I, d.45, c.6, 310.

40. *Ibid.* A similar distinction is found in Abelard, *Theologia christiana*, sec.26–28, (CC, XII, 357–58). Although the solution of the difficulties is similar, he does not use the same labels.

41. *Ord.* I, d.46, q.1, (OTh IV, 671–72).

42. *In I Sent.*, d.45, q.1, a.4, (Parma VI, 361–62).

43. *De fide orthodoxa* II, c.29.

Ockham accepts this idea, but hastens to explain that 'antecedent' and 'consequent' do not signify any temporal priority and posteriority:

> The second distinction should not be understood to imply that just as in us there is the will or a volition that precedes an act and another consequent to the act by which we take pleasure in the act; so there is in God. For there is no such multiplicity in God, but whatever is there, is in every way either the essence, or a person, or a relation, or composed of essence and relation...[44]

Rather "the consequent will is that by which God wills efficaciously in positing something in existence."[45] It corresponds to what Lombard referred to as God's will in the proper sense. To speak of the antecedent will of God is to use the latter term in yet another extended sense. Thus, Ockham explains that

> ...the following would be the nominal definition of 'antecedent will of God': the antecedent will of God is that (i) by which God gives to someone the natural properties or antecedents by which something can follow, (ii) with which God will be prepared to cooperate if the other wills, and (iii) He will not reveal the contrary to him in commands or in counsel for carrying them out...[46]

For example, God antecedently wills everyone to act meritoriously.

> ...For it is obvious that God gives to anyone the natural properties that can be followed by a meritorious act. And God is prepared to cooperate with anyone for the production of a meritorious act. Nor will He reveal the contrary to him—viz., that He is unwilling that he should choose a [meritorious] act—since He will never command him to do the contrary. And He gives commands and counsel in order that he should follow through with a meritorious act...[47]

Similarly,

44. *Ord.* I, d.46, q.1, (OTh IV, 672–73).
45. *Ibid.*, (OTh IV, 674).
46. *Ibid.*, (OTh IV, 673).
47. *Ibid.*, (OTh IV, 674).

> ...God antecedently wills that everyone should be saved, since, evidently, He gives them the antecedent conditions by which they can pursue salvation, together with commands and counsel for carrying them out, and He never commands the contrary, and He will be prepared to cooperate permitting them freely to will to act in pursuit of salvation...[48]

But God does not antecedently will that Abraham should sacrifice Isaac. For while He does perhaps give Abraham the natural properties or antecedents which would enable him to sacrifice Isaac and even commands Abraham to sacrifice Isaac, He is not prepared to cooperate with Abraham in the sacrifice of Isaac, if Abraham should so will. So this case fails to meet condition (ii).[49] Further, God does not antecedently will evils.

> ...For to whatever extent God gave someone the natural properties or antecedent conditions by which he can do evil—viz., fornicate, rage, etc.—and God does not reveal the contrary to him—viz., that He is unwilling to cooperate with him; nevertheless, since He did not command or counsel him to sin but commands and counsels the contrary, God is not, therefore, said to will evil antecedently, as God is said to will that someone earn merit or act well or something of the sort...[50]

God cannot be said to will evils antecedently, because condition (iii) is not met. As Ockham defines it, the distinction between God's antecedent and His consequent disposing will has in the first instance to do with His will for human beings. God's antecedent will is what He wants for human beings prima facie, before He takes into consideration what they do or do not will. But His consequent will is what He wills efficaciously and all things considered.

Armed with these distinctions, Ockham is in a position to give an answer to (A) that neither conflicts with the doctrine of omnipotence as developed so far nor is at odds with the facts and the Scriptures. For when the Scriptures seem to imply that

48. *Ibid.*, (OTh IV, 676).
49. *Ibid.*, (OTh IV, 673).
50. *Ibid.*, (OTh IV, 673–74).

the divine will is and can be obstructed, the terms 'will of God' and 'God wills' are found to occur not literally but in one of their figurative or extended senses. But the doctrine of divine omnipotence does not imply that nothing happens contrary to God's commands, counsels, or prohibitions. Nor does it imply that nothing happens contrary to the antecedent will of God. On the other hand, the Scriptures do not imply that anything can happen contrary to God's efficacious will.

Thus, when (A) is understood to be about God's consequent disposing will, it must be given a negative answer:

> ...nothing is done contrary to an omnipotent will that cannot be obstructed and that wills something efficaciously. But the will of God is omnipotent and cannot b : obstructed, as I assume for the present...[51]

That is, it is logically impossible that God should consequently will that $p$ be true and yet someone else bring it about that $p$ is false. But if (A) is understood to be about God's antecedent disposing will, then the answer is clearly affirmative. For God antecedently wills that everyone should act meritoriously. "But many choose acts that are the opposite of meritorious. The latter, therefore, act contrary to the antecedent will of God."[52] Again, God antecedently wills that everyone should be saved, but not everyone is saved.[53] Likewise, (A) is answered affirmatively if it is understood to be about divine counsels and commands.[54] And he might have added, about divine prohibitions.

(3.2) *Proof That God's Will Is Unobstructable.* Not only is it impossible that anything should come to pass contrary to God's disposing will; Ockham thinks that this conclusion can be proved by natural reason as follows:

> ...(i) He contrary to whose efficacious will something can be done, can be sad. But (ii) God can in no way be sad. (iii) Therefore, it is impossible

51. *Ibid.*, (OTh IV, 674).
52. *Ibid.*
53. *Ibid.*, (OTh IV, 676).
54. *Ibid.*, (OTh IV, 674–75).

> that anything should be done contrary to God's efficacious will. Therefore, (iv) whatever God wills to be done is done in the way in which He wills it to be done: since, evidently, if He wills it to be done by Himself, it is done by Himself; if He wills it to be done by another, it is done by another.[55]

Both premisses call for comment. The logical form of premiss (i is made explicit in

> (i′) For every $x$, if it is possible that something should happe contrary to the efficacious will of $x$, then it is possibl that $x$ should be sad.

When the objection is raised, presumably against (i),

> ...that something is done against the will of someone and nevertheless he is not sad, just as something is done as someone desires and yet he is not happy, as is clear in the case of demons. Therefore, even if something were done contrary to the will of God, it would not follow that God is sad.[56]

—Ockham's reponse is that this objection is irrelevant. For (i) a interpreted in (i′) is neither equivalent to nor does it entail

> (i″) For every $x$, if something is done contrary to the ef ficacious will of $x$, then $x$ is sad.

Consequently, pointing to the falsity of (i″) in no way estab lishes the falsity of (i) construed as (i′). Thus, Ockham insist that

> ...although it does not necessarily follow from the fact that something is done contrary to someone's efficacious will, that he is sad, as will be shown in Book II, nevertheless, it does follow from the fact that something is done contrary to his efficacious will that he can be sad.[57]

Premiss (ii) can be distinguished according to the sense of com

55. *Ibid.*, q.2, (OTh IV, 678).
56. *Ibid.*
57. *Ibid.*, (OTh IV, 678–79).

position and the sense of division. Taken in the sense of composition, (ii) is equivalent to

(ii′) Necessarily, for every $x$, if $x$ is God, then $x$ is in no way sad.

Suppose for the moment that Jehovah is the individual who is God. From (ii′) we can infer only that Jehovah is in no way sad, not that Jehovah cannot be sad. (ii′) combines with (i″) to yield

(iii′) For every $x$, if $x$ is God, nothing is done contrary to $x$'s efficacious will.

And only if (i″) is a necessary truth, will it follow that (iii′) is a necessary truth. But so far from being necessary, (i″) seems false, as Ockham concedes. And the combination of (i′) and (ii′) does not entail (iii′) or anything else of interest for present purposes. Presumably, then, Ockham did not understand (ii) as equivalent to (ii′).

Taken in the sense of division, (ii) is equivalent to

(ii″) There is an $x$ such that $x$ is God and it is not possible that $x$ should be sad.

(i′) and (ii″) yield

(iii″) There is an $x$ such that $x$ is God and it is not possible that anything should be done contrary to $x$'s efficacious will.

But (ii″) entails the existence of a God who is essentially incapable of being sad. And while Ockham thinks that we can prove the existence of a first conserving cause and of a being such that there is no more perfect, he never gives an argument from natural reason that the being (or beings) that fits (fit) these descriptions is essentially incapable of being sad. Probably he intended (ii) equivalent to the weaker premiss

(ii‴) For every $x$, if $x$ is God, then it is not possible that $x$ should be sad in any way,

which combines with (i′) to yield

(iii‴) For every $x$, if $x$ is God, then it is not possible that anything should be done contrary to $x$'s efficacious will.

Behind (ii″) may lie the commonplace medieval doctrine that the being who is God is necessarily perfectly happy. If the latter were taken as a conceptual truth, then (ii‴) could be understood as necessary and knowable *a priori*. And if (i′) is likewise necessary, the conclusion (iii‴) would be necessary.

Even where questions (A)—whether God's will can be obstructed by any power—and (B)—whether God's will is always implemented—are both understood as about God's consequent disposing will, Ockham emphasizes that an affirmative answer to (A) does not guarantee an affirmative answer to (B). For question (B)

> ...assumes that God wills or wills against some producibles, and it asks whether it could be proved that such a will is always implemented...[58]

In Ockham's view, it would not be true to say that the divine will is implemented in the earth's moving around the sun, if God neither wills the earth to move around the sun, nor wills against the earth's moving around the sun. And it would not be true to say that God's will is *always* implemented, unless every actual state of affairs counts as an implementation of His will and hence unless every actual state of affairs is willed by God. Thus, "if it could be proved that God wills things other than Himself, it could be proved that the divine will is always implemented."[59] But since the antecedent cannot be proved by natural reason, neither can the consequent.[60]

58. *Ibid.*, (OTh IV, 677).
59. *Ibid.*
60. *Ibid.*, (OTh IV, 677–79).

## 4 CAN GOD DO OTHERWISE THAN HE DOES?

Can God, as omnipotent, do otherwise than He does? This question can be interpreted in at least two ways—either as

(C) Does God have the productive power to do/make/produce things other than He does/makes/produces?

or as

(D) Does God have both the productive power to do/make/produce things other than He does/makes/produces, and the freedom to exercise it?

Obviously, a negative answer to question (C) demands a negative answer to question (D), but not vice versa; while an affirmative answer to (D) requires an affirmative answer to (C), but not vice versa.

It might be thought that an affirmative answer to (C) was entailed by the doctrine that God is omnipotent in sense (D6) or (D8). Such an entailment would be denied, however, by anyone who maintained either that

(E) Only the actual is logically possible, and God acts alone to produce whatever is actual,

or

(F) The only things that are (i) logically possible, and (ii) producible, and (iii) such that it is logically possible that they should be produced by God acting alone, are those that He acts alone to produce.

(E) is contrary to the faith, which claims that secondary causes act non-superfluously in the production of some actual things (see section 8 below). Abelard was condemned for holding (F), and Ockham denounces John XXII for implicitly dogmatizing

this "detestable heresy".[61] Ockham does not think that God produces all of the entities that satisfy conditions (i)–(iii). For instance, he observes that "God can produce souls to infinity, since there is never a determinate number at which He ought to stop. Nevertheless, He will not produce souls to infinity, but only a determinate number of them."[62] And in general,

> ...God could produce infinitely many individuals of the same kind, together with those that now exist. Therefore, God can produce as many individuals as have been produced now and more of the same species...[63]

Ockham thinks that, given that God is omnipotent in sense (D6) or (D8), the answer to (C) must be affirmative.

Therefore, when Ockham comes to raise the question whether God can do what He does not and will not do, he regards the primary issue as one of whether "God is a free efficient cause and not a natural efficient cause" or of whether God has it within His power to act or not act.[64] In discussing the latter question, Aquinas seems to assume that 'God acts by intellect and will' entails 'God is a free efficient cause and not a natural efficient cause'.[65] But Ockham rejects this inference, maintaining that "...it has not been proved that every agent that acts by its will as its principle of action, acts contingently and not naturally..."[66] Furthermore, Aquinas and his followers themselves maintain that

> ...the will has a double mode of acting—viz., naturally and freely. For example, it naturally wills its end and contingently and freely wills those things that are means to the end...[67]

Again, turning to the will of God, Aquinas maintains that "God

61. *Opus nonaginta dierum*, c.95, (OP II, 719).
62. *Ord.* I, d.43, q.1, (OTh IV, 637).
63. *Ibid.*, (OTh IV, 623, 626).
64. *Ibid.*
65. *Summa contra gentiles* II, c.23; *Summa theologiae* I, q.19, a.4.
66. *Ord.* I, d.43, q.1, (OTh IV, 625).
67. *Ibid.*, (OTh IV, 625).

produces the Holy Spirit by His will. Nevertheless, He produces it naturally and necessarily..."[68]

In Ockham's view, it follows from the assumption that divine power extends beyond the power to produce what is actual, that God is a cause that acts contingently and freely. Thus, he writes,

> ...I maintain that one ought to hold that God is a cause that acts contingently. For one ought to hold that God can be a total and immediate cause of these generable things. But if He were a natural cause, He would either produce all of them or none of them—each of which seems obviously false. Therefore, it is obviously false that God is a natural cause of things other than Himself."[69]

This argument begins with the assumption mentioned above that where generable and corruptible things such as human beings or cows are concerned, God has the productive power, acting alone, to produce any number of individuals of such species, including some possible individuals that are not actual. The further premiss—that if God were a natural cause that was able to produce any number of human beings or cows, then He would produce either all of them or none of them—reflects the common assumption that where an unobstructed natural cause is concerned, there is no reason why it should produce some of its effects and not others. Hence, apparently by some version of the Principle of Sufficient Reason, it will either act to produce all of them or none of them. And, as we have seen, Ockham regards it as a necessary truth that the will of God cannot be obstructed. On Ockham's assumptions, therefore, it follows that God is not a natural efficient cause. Does it follow further that He is a free cause? Ockham draws that conclusion from a similar argument in the *Reportatio:*

> Therefore, that God is a free cause with respect to everything ought to be held as a belief. For it cannot be demonstrated by any argument to which the infidel could not make a reply. Nevertheless, the following

68. *Ibid.*, (OTh IV, 626).
69. *Ibid.*, q. I, (OTh IV, 636).

> persuasive argument can be given: every cause that cannot be obstructed and that pertains equally to many or to infinite things is such that if it acts in relation to one of them and not another at an instant, it is a contingent and free cause. For where an unobstructed cause that pertains [to many] with equal primacy is concerned, there seems to be no more reason why it produces one than another except because of its own liberty. But God is this sort of cause in relation to everything produced by Him, from eternity. Therefore, etc.[70]

The crucial premiss here—viz., 'Where an unobstructed cause that pertains to many with equal primacy is concerned, there seems to be no more reason why it produces one than another except because of its own liberty'—seems false, however, in view of Ockham's remarks in *Quodlibeta* I, q.1. For as we have seen, it is consistent with a thing's being omnipotent in sense (D8) and being such that its will cannot be obstructed, that its volitions are completely controlled by some other being. Thus, its producing some and not others of the things it has the power to produce could be explained by the fact that it freely chooses to produce some but not others. But, alternatively, it could be explained by its being caused to do so by a being that acts freely and contingently in controlling it. And if this alternative explanation is available for the activity of omnipotent beings, it is available for things that can produce any number of individuals of a given species. To guarantee his conclusion that God acts freely, Ockham will need the additional and independent assumption that God's volitions cannot be controlled by anything.

Peter Abelard had insisted on a negative answer to question (D) on the ground that God is compelled to act according to His essential goodness, justice, and wisdom. For example, he reasoned that

> God can do only what it is good and just for Him to do. But there is nothing that it is good and just for Him to do except what He does. For if it is good and just for Him to do something other than He does, then He does not do everything it is good or just for Him to do. But who would dare to say this?[71]

70. II, q.3–4, (OTh V, 55–56).
71. Cited by Peter Lombard, *Sentences* I, d.43, c.u, sec.1, arg.1, 298–99.

Similarly,

> There is reason for Him to do what He does and not other things. And He can only do what there is reason for Him to do. Thus, He can do only what He does. Again, there is reason for Him to refrain from doing what He refrains from doing. And He cannot not refrain from doing what there is reason for Him to refrain from doing. Thus, He cannot not refrain from doing what He refrains from doing.[72]

The idea is that there is a single and completely determinate plan of action which is the most reasonable and right one for God to follow. And since He is not contingently but essentially good, just, and wise, He must necessarily follow it to the last detail.

Peter Lombard's reply concedes to Abelard the impossibility of God's acting maliciously, unjustly, or unwisely, but rejects the supposition that there is only one plan of action that it would be good, just, or wise for God to follow and therefore on any given occasion only one thing that it would be good, just, or wise for God to do. Thus, responding to the first, Lombard writes,

> But here let us reply, revealing a double understanding of the words and making explicit what is implicit in them, as follows: 'God can do only what is good and just'—i.e., He can do only what, if He did it, would be good and just—is true. But He can do many things that are neither good nor just, since they neither are nor will be, nor indeed are done nor will be done, since they never will be done.[73]

Similarly, only what God does is most reasonable and fitting relative to the present order which He has in fact established. But He could have established a different order relative to which other actions would be more reasonable and fitting. Thus, God can do only those things that would be reasonable

Cf. Aquinas, *Summa theologiae* I, q.25, a.5, arg.2, and Ockham, *Ord.* I, d.43, q.1, (OTh IV, 623).

72. Lombard, *Sentences* I, d.43, c.u, sec.5, 301.

73. *Ibid.*, sec.2, 299.

and wise if He did them, and not only those things that are reasonable and wise relative to the present order.[74]

Aquinas advances a similar line of reply. Abelard's reasoning would be sound if there were only one completely determinate plan of action that it would be good, just, and wise for God to follow. And there would be only one such plan if there were a definite proportion between creatures and the end to which they are ordered. For "when the end is proportionate to the things made for the sake of the end, the wisdom of the maker is limited to a determinate order." But God's goodness itself is the end to which all creatures are ordered, and since God is infinite and every creature finite, there is no proportion between them. "Thus, divine wisdom is not determined to any certain order of things with the result that no other course of things would follow from it, and it must be said absolutely that God can make things other than He makes."[75] The same point is stated succinctly in his commentary on the *Sentences:*

> ...although the will of God is immutably determined to justice, nevertheless, the order of justice is not determinate to this thing or that. Thus, it does not follow that He does this or that by the necessity of His justice.[76]

And, following Lombard, Aquinas insists that it is false that God can do only what it is *now* just and fitting for Him to do—i.e., what is just or fitting relative to the present order. Rather, God can do only what would be just and fitting if He did it.[77]

If Aquinas sees God's justice and wisdom as leaving Him free to do otherwise than He does, nevertheless, it does not permit Him unlimited options. Presumably, Aquinas would deny that He could make a disorderly world, since that would be contrary to His justice and wisdom and so the "ability" to do so would be a weakness and not a power. Again, Aquinas remarks that

74. Cf. *ibid.*, sec.5, 301.

75. *Summa theologiae* I, q.25, a.5.

76. *In I Sent.*, d.43, q.2, a.2, ad 3, (Parma VI, 351).

77. *Summa theologiae* I, q.25, a.5, ad 2; cf. *In I Sent.*, d.43, q.2, a.2, (Parma VI, 351).

although no other course would be good and fitting for the way things are now, nevertheless, God could make other things and impose another order on them.[78]

And again, he says that

...given these things, the universe cannot be better, because God has imposed the most fitting order on these things, in which order the good of the universe consists. And if some one of these things were better, the proportion of the order would be destroyed, just as if one chord were extended more than required, the guitar melody would be destroyed. Nevertheless, God could make other things or add others to the things made, and so the universe would be better.[79]

His idea seems to be that for any set of compossible producibles $S$, there is a way $W$ of ordering all and only the members of $S$ which is best and most fitting. And in view of God's essential justice and wisdom, it is necessary that if God produces all and only the members of $S$, He imposes $W$ on them. Nevertheless, $S$ may be a subset of a larger set $S'$ whose best and most fitting order is $W'$. And if God produced all and only the members of $S'$, then the members of $S$ would exist in a world with an order other than $W$.

Nevertheless, Aquinas insists that just as God's justice and wisdom do not determine Him to any one course of action, they also leave open the possibility that He could have made a better world than this world. To be sure, He could not make a universe that is ordered to a better end than the present one, since the latter is ordered to God, the best possible thing, as its end.[80] Nor, as just noted, could He make all and only the things that actually exist with a different order. Again, He could not have made any particular thing such as Socrates with a better essence than it in fact has, since it is impossible that anything with a different essence from Socrates should be identical with Socrates.[81] Nevertheless, He could have created all the sub-

78. *Summa theologiae* I, q.25, a.5, ad 3.
79. *Ibid.*, a.6, ad 3.
80. *In I Sent.*, d.44, q.1, a.2, (Parma VI, 353).
81. *Ibid.*; *Summa theologiae* I, q.25, a.6.

stances that in fact exist with better accidents than they in fact have—e.g., He could have made Judas with greater moral virtue, or the seven foolish virgins with more wisdom.[82] Or again, He could have made a universe better with respect to its essential goodness by creating—either instead of or in addition to the substances that now exist—substances of species different from and better than those now represented.[83] Aquinas's confidence that there are creatures of species better than any now represented, rests on his conviction that "between the highest creature and God there is an infinite distance,"[84] so that no matter what creature God made, He could make one of a better species.

Ockham too, rejects the arguments that an essentially just God can do only what He does:

> ...I reply that the reasoning does not hold good. For although God can do only what is justly done, nevertheless, something can be justly done if God did it, which nevertheless is not now justly done because God does not do it...[85]

That is, 'God does $x$' entails '$x$ is justly done by Him'. But since He does some of the things that He does contingently, '$x$ is not done by God' and 'it is possible that $x$ is justly done by God' may be consistent. As for whether God could have made a better world than this one, Ockham agrees that He certainly could have made the substances that now exist with better accidents inhering in them than they now have.[86] And He can make a better world in the sense that He can make a world that has more individuals than this world has of the various species represented in this world.[87] Further, Ockham agrees with Aquinas that

82. *In I Sent.*, d.44, q.1, a.2, (Parma VI, 353); *Summa theologiae* I, q.25, a.6, ad 1.

83. *In I Sent.*, d,44, q.1, a.2, (Parma VI, 353); *Summa theologiae* I, q.25, a.6.

84. *In I Sent.*, d.44, q.1, a.2, (Parma VI, 353).

85. *Ord.* I, d.43, q.1, (OTh IV, 640).

86. *Ibid.*, d.44, q.u, (OTh IV, 660).

87. *Ibid.*, (OTh IV, 655).

> ...if one holds the opinion that God can make a substance more perfect than any substance made and this to infinity...it follows that one will have to say that God can make a better world that is distinct in species...

in the sense that it contains at least some individuals of species not represented in this world.[88] But Ockham does not share Aquinas's confidence that we can know for certain that there is no maximum degree of created perfection. And

> ...if one holds that there is a limit among such substances in such a way that some substance is the most perfect that can be made by God, there is more doubt. For when one holds this opinion, either part of the contradiction can be held defensibly...[89]

For if there is a finite limit to the number and perfection of possible species producible by God, it would be difficult to give a reason why God should make individuals of some such species and not others. Only the pronouncements of some authority could enlighten us at this point, and relevant passages are difficult to find in Scriptures.[90] Further, if the number and perfection of producible species is thus limited, then even if we could know that God does not produce individuals of every species producible, we might still be in doubt as to whether He could make individuals of better species than any He has in fact made. For one could hold

> ...that some individuals of some species producible by God have not been produced. Nevertheless, an individual of the highest species has been produced, since it seems improbable that God would produce individuals of inferior species and not of the highest species, if it should be supposed that there is such a highest species.[91]

Nevertheless, despite such a wide margin for doubt on this issue, Ockham declares that he thinks it probable that God should be able to produce individuals of more and of better

88. *Ibid.*, (OTh IV, 652).
89. *Ibid.*
90. *Ibid.*, (OTh IV, 654).
91. *Ibid.*

species than are in fact represented in this world, and so in that sense should be able to make a better world than He has in fact made.[92]

## 5. THE DISTINCTION BETWEEN GOD'S ORDERED AND ABSOLUTE POWER

Most medieval Christian theologians insisted that—God's essential goodness, justice, and wisdom notwithstanding—He can do otherwise than He does. And in the course of defending this thesis against Abelard, they began to distinguish between what God can do with respect to His absolute power (*de potentia absoluta*) from what He can do with respect to His ordered power (*de potentia ordinata*). Suggested by the anonymous author of the *Summa Sententiarum*, the terminology was used by Alexander of Hales and Albert the Great and passed into general circulation, where shifts in its precise meaning invited confusion.[93] The most pernicious misunderstanding was occasioned by the fact that 'There is a double power in God' and 'God can do something with respect to His absolute power that He cannot do with respect to His ordered power', taken literally, imply that there are in God two powers of different extensions and suggest that there are really distinct things or at least metaphysical constituents in the divine essence.[94] According to Ockham's account in the *Opus nonaginta dierum*, no lesser ec-

92. *Ibid.*, (OTh IV, 655).

93. For a discussion of the historical roots of this distinction and its usage up until Luther, see R. Paul Desharnais, *The History of the Distinction between God's Absolute and Ordained Power and Its Influence on Martin Luther*, an unpublished Ph.D. dissertation, Catholic University of America, 1966. See also Gedeon Gál, "Petrus de Trabibus on the Absolute and Ordained Power of God," in *Studies Honoring Ignatius Charles Brady, Friar Minor*, (St. Bonaventure, NY, 1976), 283–292, and Klaus Banach, *Die Lehre von der doppelten Macht Gottes bei Wilhelm von Ockham*, (Wiesbaden, 1975).

94. Cf. *Summa logicae* III–4, c.6, (OPh I, 779–780), where Ockham implies that the alternative reading is an "improper" or "loose" sense compared with this one.

clesiastic than Pope John XXII rejected "the theologians' distinction" between God's absolute and ordered power in part because he understood it to compromise divine simplicity this way.[95] No one who employed the distinction had so intended it, however. Albert the Great had already been eager to exclude this misconstrual with his remark that "God's power *is* one and simple, but it can be *considered* two ways."[96] Likewise, Ockham reports that

> the stated distinction should not be understood the way some ignorant people think, as if there is really a double power in God of which one is absolute and the other ordered. For there is a single power in God. Indeed, the single power is the single essence...[97]

Rather the distinction is essentially one between ways of conceiving and naming Him. Ockham might have said that 'absolute power' and 'ordered power' are not absolute but connotative terms whose primary significatum is the same but whose secondary significata and modes of signifying differ.[98] This fundamental point agreed upon, however, there was still a variety of interpretations from which we shall sample those of Aquinas, Scotus, and Ockham.

(5.1) *Aquinas's Usage*. Considering the issue of whether an essentially just God can do otherwise than He does, Aquinas writes that

> ...since power is understood as executing, but will as commanding and intellect and wisdom as directing, what is attributed to power considered in itself, God is said to have power over with respect to His absolute power. And everything in which the aspect of being can be saved is of this sort, as was said above (a.3). But what is attributed to the divine power insofar as the command of a just will executes it, God is said to be able to do with respect to His ordered power.[99]

95. C.95, (OP II, 718–19); cf. chapter 21 above.

96. Italics mine, *In III Sent.*, d.20, a.2, (Paris, 1893, vol.28, 358b–359a), quoted in Desharnais, *op. cit.*, 64.

97. *Opus nonaginta dierum*, c.95, (OP II, 725); *Quodl.* VI, q.1, (OTh IX, 585–86).

98. Cf. *Opus nonaginta dierum*, c.95, (OP II, 726).

99. *Summa theologiae* I, q.25, a.5, ad 1.

Thus, on Aquinas's usage,

(A) God can do $x$ with respect to His ⌜absolute⌝ power, if and only if God is assigned the power to do $x$ when His power is considered absolutely, in abstraction from His other attributes and/or from what He actually decides.

And the scope of this absolute power extends to whatever is possible absolutely, whether or not God produces it in fact. (In this passage, Aquinas is assigning to God all of the power assigned by the right-hand side of (D2) and ignoring the complications that lead to a replacement of (D2) by (D3).) By contrast,

(B) $x$ lies within the scope of God's ⌜ordered⌝ power if and only if God ordains or wills, all things considered, that He will do/make/produce $x$.

Thus, Aquinas contends that

> ...God can, with respect to His absolute power, do other things than He foreknew and foreordained that He would do. Nevertheless, it cannot be that He does anything that He did not foreknow and foreordain that He would do...[100]

Since God cannot deviate from whatever plan He chooses, given that He chooses it, the conjunction 'God foreordained that He would bring about the truth of $p$ and He does not bring about the truth of $p$' is impossible. But since, according to His absolute power, He could have foreordained some other sequence of actions and events, 'God foreordained that He would bring about the truth of $p$' and 'It is possible that God does not bring about the truth of $p$' (where $p$ is contingent) are compatible. Put otherwise, God's bringing about the truth of $p$ is hypothetically, but not absolutely necessary.

As Aquinas draws it, the above distinction between God's ordered and His absolute power is not equivalent to another

100. *Ibid.*

recognized distinction between His power to bring about effects by means of or within the natural capacities with which His creatures are actually endowed, and His power to act outside the bounds of such capacities, whether to bring about something without the concomitant action of the secondary cause or to bring about an effect that no secondary cause is able to bring about. That God has such power is insisted upon by Aquinas.[101] For instance, He has the power to revive a dead man or to restore the sight of one previously blind or to bring it about that the sky does not exist or that another world exists,[102] none of which—Aquinas thought—could be effected by secondary causes acting within the natural capacities that God has in fact given them. In reply to the objection that for God to act outside the order of nature would be for Him to act contrary to it, which would be unfitting, Aquinas replies that the agent that establishes the natural order acts outside of it, not contrary to it. "...Therefore, since the order of nature is established in things by God, if He does something outside this order, it is not contrary to nature..."[103] Nevertheless, God's power to act outside the natural order which He has established among secondary causes does not necessarily fall under His absolute as opposed to His ordered power.[104] For God does in fact perform some miracles and so both foreknew and foreordained that He would do so. Thus, Aquinas writes that

> ...God has so imposed a determinate order on things that He still reserves for Himself what He will sometimes do differently for good reason...[105]

Hence, the miracles that He in fact performs, as well as acts carried out in conformity with the natural order of secondary causes, fall under God's ordered power; while both these and the miracles that He does not perform fall under His absolute

101. *Ibid.*, q.105, a.6 and ad 3.
102. *Ibid.*, q.19, a.7, ad 2; *In I Sent.*, d.42, q.2, a.2, (Parma VI, 345).
103. *Summa theologiae* I, q.105, a.6, ad 1.
104. As distinguished in *ibid.*, q.25, a.5, ad 1.
105. *Ibid.*, q.105, a.6, ad 3.

power, according to Aquinas's usage in *Summa theologiae* I, q.25, a.5, ad 1. Thus, God's ordered power is His power to do what accords with the completely determinate plan of action that He in fact foreordains. And such a plan may include miraculous actions on his part.

(5.2) *Scotus's Position*. Like Aquinas, Scotus uses a distinction between ordered and absolute power in developing a similar answer to the question of whether God can produce things otherwise than as He has foreordained. Unlike Aquinas, however, Scotus focuses on legal analogies and sees the distinction as one that applies to all intelligent voluntary agents that are free to obey an established system of laws or not. Thus, in his *Ordinatio* he writes,

> ...In every agent that acts by intellect and will and is able to act in conformity with the right law and nevertheless does not necessarily act in conformity with the right law, ordered power must be distinguished from absolute power. The reason is that it can act in conformity with the right law, and then it acts according to its ordered power (for it is ordered insofar as it is a principle of carrying out some things in conformity with the right law) and it can act outside that law or contrary to it, and in this there is absolute power that exceeds ordered power. Therefore, not only in God but in every free agent which can act according to the dictates of the right law and outside such a law or contrary to it—ordered and absolute power must be distinguished. Therefore, the jurists say that someone can do this *de facto*—i.e., with respect to absolute power—or *de jure*—i.e., with respect to power ordered according to the law.[106]

Thus, an agent's ordered power is his power to act in conformity with right law, and

(C) $x$ lies within the scope of God's ordered power if and only if $x$ accords with the right law that He has established.

As such an agent's ordered power would seem to include his power to do not only what he does, but also to do legal things that he does not do. For example, it is legal for me to walk

106. I, d.44, q.u, n.3, (Vaticana VI, 363).

across the street now, but I choose to stay inside instead. An agent's absolute power, on the other hand, includes his power to do what is outside the law or contrary to it. This passage does not make clear whether an agent's absolute power is exhausted by his power to act outside of or contrary to the established law, or whether it includes his ordered power as well. That Scotus intends the latter is clear from his contention elsewhere that

(D) God's absolute power is His power to do anything that does not involve a contradiction.[107]

(5.2.1) According to Scotus, different things should be said about the absolute and ordered power of a subject and that of a lawgiver. Speaking first of the subject, Scotus remarks that

> ...when that right law, according to which one's actions should be ordered is not within the power of the agent, then its absolute power cannot exceed its ordered power with respect to any objects, unless it acts inordinately with respect to them...[108]

Suppose $L$ is the established law. Since $L$ is established or not independently of the subject's will, it is within the subject's power either to act legally in accordance with $L$ (in which case it acts according to its ordered power) or to act illegally and contrary to $L$ (and hence according to its absolute power). But while it may be within the subject's power to do something which, though contrary to $L$, would be in accordance with an alternative law $L'$ if $L'$ were the established law, it is not entirely within the subject's power to act legally according to $L'$. For it is not within the subject's power to bring it about that $L'$ is the established law. On the other hand, it is within the power of the lawgiver to act contrary to the established law without acting illegally. For

> ...when the law and the rightness of the law are within the power of

107. *Ord.* II, d.7, q.u, n.18, (Wadding VI, 570).
108. *Ord.* I, d.44, q.u, n.4, (Vaticana VI, 364).

> the agent in such a way that it is right only because it is established; then the agent can, by its liberty, ordain otherwise than the right law says. Nevertheless, it is consistent with this that it acts in an orderly fashion, since it can establish another right law according to which it acts in an orderly fashion...[109]

It is within the lawgiver's power, in doing something contrary to $L$, to bring it about that he acts legally in accord with $L'$, since whether $L$ or $L'$ is the established law depends on his free choice. In fact, Scotus has in mind the principle of Roman law according to which illegal action is impossible for the absolute ruler:

(E) '$L$ is the established law and the lawgiver acts contrary to $L$' is a contradiction.

Thus, he concludes,

> ...And in that case its absolute power does not absolutely exceed its ordered power, since it would be ordered according to another law, just as according to the earlier law. Nevertheless, it exceeds the ordered power precisely according to the earlier law, against which or outside which it produces...[110]

Ordered power is so-called relative to the system of established laws. An absolute lawgiver always acts according to his ordered power, in the sense that

(F) Necessarily, for any time $t$, what the lawgiver does at $t$ conforms to the laws established for $t$.

But the scope of his absolute power may exceed that of his ordered power, considered as ordered relative to a particular system of laws in fact established for a given time, since it is within his power to establish a different set of laws and act according to it.

God is an intelligent voluntary agent who is free to obey the

109. *Ibid.*, n.5, (Vaticana VI, 364–65).
110. *Ibid.*, (Vaticana VI, 365).

established laws of the universe or not.

> God, therefore, [insofar as He is] able to act according to these right laws that He pre-established, is said to act according to ordered power. But insofar as He can do many things that are not according to the laws now pre-established but outside them, [His power] is called His absolute power. For since God can do whatever does not involve a contradiction and can act in a way that does not include a contradiction (and there are many other such ways), He is therefore said to act then according to His absolute power.[111]

But as the supreme lawgiver upon whose free choice the contingent laws of the universe depend for their establishment, God cannot act illegally (by (E)). He would act contrary to a given system of laws, only if He established some other system of laws to which His action conformed.

> ...And in that case His absolute power for something does not extend to anything other than what He would do in an orderly fashion if He did it—certainly, they would not be done in an orderly fashion according to this order, but they would be done in an orderly fashion according to another order, which order the divine will could thus establish, just as it can act.[112]

(5.2.2) For Aquinas, God's ordered power is His power to do what conforms to the completely determinate plan of action that He actually chooses, where this plan consists, not of a system of general laws, but a series of determinations of what to do in each and every particular case throughout the whole of world history. Thus, on traditional assumptions, it specifies that He will allow Joshua to enter the promised land but not Moses, and that He will give eternal happiness to Peter but not to Judas.

In this respect, Scotus's conception of ordered power differs from that of Aquinas. For Scotus distinguishes between laws and judgments. As he sees it, laws must be general and deal with all cases of a certain sort: e.g., a king might decree that everyone who commits homicide must die; or God might ordain that

111. *Ibid.*, n.8, (Vaticana VI, 366).
112. *Ibid.*

everyone who commits the sin of final impenitence must be damned. But judgments are applications of the general laws to particular cases: e.g., that this person who commits homicide must die; or that Judas, who commits the sin of final impenitence, must be damned. For Scotus, ordered power is so-called relative to the universal order of general laws, and not relative to the particular order applying them to particular cases.[113]

(5.2.3) The latter divergence between Aquinas's and Scotus's conceptions of ordered power opens the way for another concerning whether the order relative to which ordered power is said to be ordered, can change. On Aquinas's view, it cannot. For, as immutable, God immutably chooses the completely determinate plan of action that He will follow throughout the course of world history. Since Scotus thinks of the order relative to which ordered power is ordered as a system of general laws, he does envision the possiblility of its changing from time to time. For instance, in the last quoted passage, he speaks of the lawgiver's power to produce something that does not accord with an "earlier" law, thereby suggesting that the lawgiver might establish one system of general laws at one time and another at a later time. This thought comes out more explicitly in the *Lectura*, where he discusses both divine and human lawgivers. Thus, he writes that

> ...if the law is subordinate to his will, he can [do] with respect to his absolute power what he cannot [do] with respect to his power according to that law. For example, suppose someone such as a king was so free that he could make a law and change it. Then, he can act otherwise, outside the law, with respect to his absolute power, because he can change the law and establish another.[114]

Turning to the case of God, Scotus observes that some laws are established by the divine will and nevertheless the opposites of these established laws are possible. In such cases, "He can

113. *Ibid.*, n.9–11, (Vaticana VI, 366–68).
114. I, d.44, q.u, n.3, (Vaticana XVII, 535).

change the law and act otherwise."[115] For an illustration, Scotus looks to laws governing the process of salvation.

> ...For example, He established that no one should be glorified unless he first receives grace. When His action is ordered according to this law, He acts according to His ordered power. And He cannot act otherwise except by ordaining and establishing another law—which He can do, since He contingently willed that every sinner should be damned. Thus, by doing the contrary, He establishes another law, according to which He acts in an orderly fashion.[116]

This passage suggests the following refinement on (C):

(C') $x$ lies within the scope of God's ordered power at $t$ if and only if $x$ accords with the right law that He has established for $t$.

Thus, God's ordered power is His power to act in accord with the laws He establishes. Since He could have established other laws and change the laws from time to time, the scope of God's ordered power not only can but does change from time to time.

(5.2.4) It is not clear how Scotus can consistently hold with (F) that

(G) 'God does $x$ at $t$' entails '$x$ conforms with laws established by God for $t$',

however. For $x$ is in conformity with a law, if and only if there is a law $L$ that is relevant to $x$ and $x$ conforms with $L$. The first part of this condition would be easily satisfied, if 'law' were construed according to Aquinas's conception of a completely determinate plan of action describing everything that God ever did, does, or will do. But Scotus has insisted that laws are general. Thus, everything God does conforms with laws that He has in fact established, only if He has established general laws to cover everything that He does, whether in the order of nature

115. *Ibid.*, n.4, (Vaticana XVII, 536).
116. *Ibid.*

or in the order of salvation. We might imagine that just as 'No one is glorified unless he first receives grace' is in fact a law governing redemption, so 'Heat heats' is a law governing the natural order. Scotus's belief in miracles renders the latter claim problematic, however. For God acted miraculously to prevent the heat in fire from burning Shadrach, Meshach, and Abednego in the fiery furnace or even singeing their garments. Is this not a counterexample to the general law 'Heat heats'? To be sure, contemporary observations about the vagueness of 'general law' might lead us to say that 'Heat always heats proximate objects except for the three boys in the fiery furnace' is a general law. But these worries were not anticipated by Scotus, and regarding 'Heat always heats proximate objects except for the three boys in the fiery furnace' as a general law seems contrary to the spirit of Scotus's distinction between laws and judgments. Nor can it be said that while 'Heat heats proximate objects' has been a general law for most times, 'Heat does not heat' was the law in force while the three boys were in the furnace. For according to the Biblical account, the fire that left them untouched killed the men who threw them in and burned their clothes.[117]

These considerations lead to the general observation that—where the laws relative to which God's power is said to be ordered are general—Aquinas's conception of it in (B) as the power to do what He does, is not logically equivalent to Scotus's construal of it in (C) as His power to do what is legal. For to reduce the former to the latter, one needs to hold that

(H) God does $x$, if and only if $x$ accords with the right law that He has in fact established,

is a necessary truth—which in turn presupposes that

(J) If God does $x$, then God has established a law $L$ under which $x$ falls,

and

117. Daniel 3:20–22.

(K) If God does $x$, then $x$ is not contrary to any of the laws He has actually established,

and

(L) If $x$ accords with the laws that God has in fact established, God does $x$,

are all necessary truths. And to show that the notions are even extensionally equivalent, (H)–(L) must all be truths. As (J)–(L) indicate, (H) might fail to hold either because God sometimes acted illegally (contrary to (K)), or because some of His actions are not covered by laws (contrary to (J)), or because He does not do everything it would be legal for Him to do (contrary to (L)).

If 'divine law' refers not to general prescriptive principles, but to a completely determinate plan describing everything that God has done, is doing, or will do in the future, then (H)–(L) are trivially true. For no matter what God did, there would be some—at least infinitely long—description that all of His actions would fit. If the laws are general as Scotus says they are, then either (J) is true or it is false. If it is true, then there are general laws covering not only the order of salvation but also the order of nature, and God violates the latter when He performs miracles—contrary to (K). If there are no general laws covering the order of nature, then some of God's actions lie outside the bounds of any law—contrary to (J). Further, if the laws governing redemption are general, it seems that there are legal actions that God never performs—for example, saving my first son or any number of other persons who do not actually exist but could exist—which is contrary to (L). In any case, therefore, (H) fails, and Aquinas's conception of God's ordered power is neither logically nor extensionally equivalent to that of Scotus.

By contrast, their conceptions of absolute divine power in (A) and (D) are both logically and extensionally equivalent. The difference between them is not one of scope, since both permit God's absolute power to range over all logical possibilities or—more nearly accurately—producibles. But (A) will and (D) will not render statements of the form 'God actually produces $x$

with respect to His ordered power' ill-formed. For 'God actually produces $x$' asserts something about how God's power is exercised; and God's power cannot be simultaneously considered together with and in abstraction from its actual exercise. (D) allows 'God actually produces $x$ with respect to His absolute power' to stand as trivially true, since whatever God actually does is logically possible.

(5.3) *Ockham's Construal.* Ockham's most explicit pronouncement on this subject, in *Quodlibeta* VI, q.1, makes it appear that he follows Scotus in adopting (C) and (D). Ockham writes,

> Rather the distinction should be understood this way: 'to be able [to do/make/produce (*facere*)] something is sometimes taken according to the laws that are ordered and instituted by God. And God is said to do those things with respect to His ordered power. Otherwise, 'to be able' is taken for the ability to do/make/produce anything the doing/making/producing of which does not involve a contradiction, whether or not God has ordained that He will do/make/produce it. For God can do/make/produce many things that He does not will to do/make/produce, according to the Master of the *Sentences*, Book I, d.43. And God is said to be able to do them with respect to His absolute power, the way there are some things that the Pope cannot do in accordance with the laws established by him, but he can do them absolutely.[118]

This passage says that $x$ lies within the scope of God's absolute power, if and only if no contradiction is involved in $x$'s being done/made/produced, and this is so whether or not God actually produces $x$ or refrains from producing $x$. Hence, it is not merely the power to perform miracles, which form only a subset of such producibles. That Ockham understood God's absolute power in terms of (D) is also clear from the *Summa logicae* III–4, where he construes the true sense of 'God by His absolute power, can accept someone without grace...' as 'God can accept someone without grace inhering in [him] since this does not include a contradiction...'[119] This interpretation is im-

118. (OTh IX, 586).
119. C.6, (OPh I, 779–780).

plicitly confirmed by numerous passages, and I know of none that tell against it.

Whether or not Ockham really understood God's ordered power in terms of (C) instead of (B) is a more difficult matter. Three texts are especially relevant here: in order of composition, *Summa logicae* III–4, c.6; *Quodlibeta* VI, q.1; and *Opus nonaginta dierum*, c.95. (i) Of these, the first occurs in Ockham's discussions of amphibolies, where the proposition 'God, by His absolute power, can accept someone without grace, but not by His ordered power' occurs as an example:

> Again, the proposition 'God, by His absolute power, can accept someone without grace, but not by His ordered power' is multiplex. One sense is that God, by one power that is absolute and not ordered can accept someone without grace and by another power that is ordered and not absolute cannot accept it—as if there were two powers in God, by one of which He could [do] this and not by the other. And this sense is false. Otherwise, it can be taken improperly for the expression 'God can accept someone without grace inhering in [him], since this does not include a contradiction, and nevertheless He ordained that this will never be done'. And this sense is true.[120]

The second proposed analysis implies that 'God cannot do $x$ by His ordered power' is logically equivalent to 'God has ordained that $x$ will never be done'.[121] But this result does not help us to choose between (B) and (C), without more information regarding the relevant divine ordinances. Does God rule it out simply by promulgating the general law 'No one is actually saved without charity inhering in him'? If so, the analysis of ordered power in terms of (C) is still a possibility. Or does God rule out such salvation by willing against it in each of the particular cases that will arise—a suggestion that fits with (B)? This terse text is silent here, but Ockham's remark in the *Dubitationes addititiae* G, that 'for God to ordain is for God to will,' would decide the dispute in (B)'s favor.

120. (OPh I, 779–780).

121. This has the odd implication that God has ordained that impossibles will never be done.

(ii) Even the above quoted passage from *Quodlibeta* VI, q.1 is equivocal. The initial account seems to contain an explicit endorsement of (C). Yet, right after explaining God's absolute power as the ability to do/make/produce everything the doing/making/producing of which does not involve a contradiction, Ockham goes on to add: "whether or not God has ordained that He will do/make/produce it. For God can do/make/produce many things that He does not will to do/make/produce," as if the latter were the point of contrast between absolute and ordered power. And this suggests, although it does not explicitly assert that

(M) Necessarily, if God can do $x$ with respect to His ordered power, God wills to do $x$,

which is half of the equivalence in (B). Given that 'God ordains $x$' and 'God can do $x$ with respect to His ordered power' mean the same thing in these contexts, (M) is in effect reaffirmed in *Quodlibeta* VI, q.2:

> I maintain that necessarily He accepts an act elicited by charity, where hypothetical necessity is meant. For the inference 'God ordained and established by laws given now that this sort of act elicited now is to be accepted; therefore God accepts that act elicted now' is necessary, since the premiss cannot be true without the conclusion. Nevertheless, both premiss and conclusion are absolutely contingent. Likewise the inference 'Peter is foreknown [to be damned]; therefore he will be damned' is necessary, but both premiss and conclusion are absolutely contingent.[122]

'God ordains $x$' entails 'God does (wills to do) $x$'.

(iii) The third text comes from Ockham's *Opus nonaginta dierum*, one of his political works written to overturn John XXII's attacks on Franciscan poverty. Although Ockham does not claim here to be speaking for himself, but rather on behalf of John XXII's opponents, it is quite clear that Ockham numbers himself among them and endorses their position. The topic

122. (OTh IX, 591).

under discussion in chapter 95 is whether Christ ever renounced His kingdom and worldly dominion. The Franciscan party to which Ockham belonged insisted that He had and concluded that they must imitate Him—individually and collectively as an order—by taking the vow of poverty. John XXII argued, on the contrary, that if Christ had done this, He would have acted against what His Father had ordained—which is impossible. Anticipating the response that

> by God's ordered power, it could not come to pass that Christ renounced His kingdom and dominion...but it could happen by God's absolute power which ranges over everything that does not involve a contradiction,[123]

John XXII "denies the theologians' distinction between God's ordered and absolute power."[124] After arguing that this move leads him to the heretical position that everything happens of necessity, his opponents defend their distinction by pointing to the ambiguous use of power-words in the Scriptures and other authorities:

> ...Thus, in some places [words such as 'can', 'possible', and 'power'] denote or signify all those that it is not incompatible with God to make...Otherwise such words signify or connote only those that He has ordained that He will do and not all those that He could do or could ordain that He will do...[125]

And after further discussion, he concludes that

> thus to say that God can [do/make/produce] some things with respect to His absolute power that He cannot [do/make/produce] with respect to His ordered power, is only—rightly understood—to say that God can [do/make/produce] some things that He nevertheless has not ordained that He will do/make/produce—which, nevertheless, if He did/made/produced them, He would do/make/produce them with respect to His ordered power...[126]

123. (OP II, 718–19).
124. (OP II, 719).
125. (OP II, 725).
126. (OP II, 726).

If one takes the counterfactual as doing duty for a modal operator, this passage implies

(N) Necessarily, if God does $x$, God does $x$ with respect to His ordered power,

which—since God acts only by willing—yields the other half of the equivalence in (B). (N) is reaffirmed on the very next page, where he contends that "'Something is done by God and not with respect to His ordered power' is impossible."[127]

In between these two quotes, however, Ockham appeals to legal analogies to explain the distinction. He observes that just as power-words are applied to God equivocally, so

> ...one way we are said to be able [to do/make/produce] those things that we can do de jure. And a man is said to be able to do/make/produce what he can rightfully and legally do this way...Otherwise we are said to be able [to do/make/produce] those things that we can do absolutely, whether well or badly...[128]

—which fits with Scotus's analysis of 'ordered power' in (C).

The fact that some of Ockham's remarks suggest an analysis of ordered power in terms of (B) and others in terms of (C) would not be problematic if (B) and (C) were equivalent. As we have seen above, however, Ockham can consistently regard them as logically equivalent only if he regards (H)–(L) as necessary truths, and as extensionally equivalent only if they are at least truths. Ockham's remark in *Quodlibeta* VI, q.1 that "God does nothing inordinate"—i.e., nothing contrary to what He has ordained that He will do or to the ordinances that He has established—effectively endorses (K). And since Ockham also believes that God sometimes works miracles, he cannot consistently assent to both (J) and (K), while holding that the laws in question include general laws about the natural activities of physical objects. The question of whether Ockham can con-

127. (OP II, 727).

128. (OP II, 726); cf. Scotus's *Ordinatio* I, d.44, q.u, n.3, (Vaticana VI, 363), where Scotus draws this contrast for every free agent.

sistently endorse (J) as well as (K) and (L) and hence of whether he could reasonably equate (B) and (C) thus depends on whether Ockham did conceive of the laws in question as general the way Scotus did, or whether he thought of divine law in terms of a completely determinate description of all God's actions. What do the texts reveal on this point?

The evidence is mixed. (iv) On the one hand, many of Ockham's examples of what God can do with respect to His ordered power are presented in the form of general rules or policies: 'Unless someone has been born again by water and the Holy Spirit, he cannot enter the kingdom of heaven';[129] 'No human being will ever be saved or elicit a meritorious act without created grace inhering in him';[130] 'Everyone who has an infused habit of grace inhering in him at death will receive eternal life';[131] 'Guilt is not taken away without an infusion of grace'.[132] As Father Gedeon Gál is fond of pointing out, even if Ockham's examples were all of general laws, this would not prove conclusively that he thought the laws relative to which God's power is said in (C) to be ordered were general laws. For Ockham says that "it is not necessary to worry about examples,"[133] and often enunciates the pedagogical principle that examples need not represent things as they are but as they seem to the students to be.[134] On the other hand, since the above pronouncements occur in the very questions in which such issues about salvation are just what is at stake, it would have been misleading and irresponsible of Ockham to misstate himself on these points in these contexts.

(v) Again, in *Quodlibeta* VI, q.1, Ockham follows Scotus in implying that the laws established by God are time-relative and

129. *Quodl.* VI, q.1, (OTh IX, 586).

130. *Quaest. variae*, q.1, (OTh VIII, 16, 23–24); cf. *Ord.* I, d.17, q.3, (OTh III, 477–78).

131. *Ibid.*, q.1, (OTh III, 456); *Quodl.* VI, q.2, (OTh IX, 591).

132. *Ibid.*, q.4, (OTh IX, 598).

133. *Summa logicae* II, c.16, (OPh I, 295).

134. *Ibid.* III–1, c.29, (OPh I, 434); c.32, (OPh I, 448); III–2, c.17, (OPh I, 533); c.33, (OPh I, 563); c.39, (OPh I, 580); etc.

that different laws are in force at different times:

> This distinction [between God's absolute and ordered power] is proved by the words of the Saviour in John 3:5, where He says, 'Unless someone is born again by water and the Holy Spirit, he cannot enter the kingdom of God'. For since God's power is now equal to what it was before, and since there was a time when some entered the kingdom of God without any baptism (as is clear from the case of circumcized boys before they had the use of reason, in the time of the Old Law), this is also possible. Nevertheless, what was then possible according to laws established then is not now possible according to the law established now, although it is possible absolutely.[135]

This passage suggests a replacement of (C) by (C′) with the implication that different laws are in force at different times. But Ockham would not have admitted any change in the completely determinate description of divine action throughout the course of world history. Hence, in this passage, he must be thinking of the laws relative to which God's power is said to be ordered as general.

Other passages seem to tell in the opposite direction, however. (vi) In *Quaest. variae,* q. 1, Ockham is elaborating with approval Scotus's opinion that no creature can necessitate God to accept an act or a person, and contends that

> if there were two persons equal in all of their natural features and all of their supernatural habits and acts, He could accept the first and reprobate the other, although not with respect to His ordered power. This is clear from the case of Jacob and Esau who were equal with respect to their natural features according to the Doctors...[136]

According to the order of salvation in fact established by God, God treats like cases alike; that He has the power to treat like cases differently (and so is not necessitated by a creature's natural features, supernaturally infused habits, or acts, to treat like cases alike) is proved by the fact the He once treated like cases differently. The passage tells us that such an action is contrary to the ordinances God has established for now. So when

135. (OTh IX, 586).
136. (OTh VIII, 22).

he wrote this, either Ockham thought that God sometimes acted contrary to His ordinances (and hence rejected (K)), or that the ordinances in force in the days of Jacob and Esau were different (the "change-hypothesis"), or that the laws governing the redemptive process are not general after all. And even if Ockham had endorsed the change-hypothesis (as in *Quodlibeta* VI, q.1), he could not plausibly have held both (K) and that the past redemptive laws were general. For according to the Bible, God did not make it a general policy even in those days to treat like cases differently or to prefer the younger to the older or the tricky to the gullible, etc. Given Ockham's remarks about the present ordinances and the Jacob/Esau case, the most reasonable position for him to take would have been that the past laws were not general.

(vii) Again, in *Reportatio* IV, q.10–11, Ockham writes,

> Nevertheless, in fact (*de facto*) and naturally, the expulsion of guilt precedes the infusion of grace. For in fact and as a rule (*regulariter*), guilt is not remitted unless grace is infused. But grace *was* infused without the expulsion of guilt, as is clear from the case of the angels, of Christ, and of the Blessed Virgin, and the first man according to some. But this—the fact that guilt is not expelled without an infusion of grace—does not happen by the nature of the thing (*ex natura rei*), because God can do the contrary.[137]

Once again, what is said to hold as a rule—'Grace is not infused without the expulsion of guilt'—is also allowed to admit of exceptions. Thus, either Ockham is here giving up the idea that God always follows His own rules; or he means to say that different rules applied to those earlier times when the angels, Christ, the Blessed Virgin, and the first man received grace; or by what happens "in fact and as a rule" he means only what *usually* happens, while his considered opinion is that the rules governing salvation are not general. As with the previous passage, adopting the change-hypothesis will not make it much more reasonable for Ockham to hold that the past ordinances were all general. Medieval theology did assign God a general

137. OTh VII, 207), (italics mine).

policy of infusing grace into angels before they had a chance to sin; and perhaps He had the same policy for humans before the fall. Nevertheless, Christ and the Blessed Virgin are surely exceptions to the general rule Ockham enunciates—that expulsion of guilt precedes an infusion of grace—because they are exceptions to the general rule that post-lapsarian descendants of Adam are born guilty. They are not instances of some alternative general rule in force during the first century B.C. but no longer.

(viii) Towards the middle of *Quodlibeta* VI, q.1, Ockham maintains that "a beatific act was given to Paul in his rapture, since he saw the divine essence then and not as a reward for merit."[138] But Paul's experience was extraordinary both then and now, since a beatific act is usually received only after death as a reward for merit. Hence, the change-hypothesis seems unpromising here. Nor is it likely that Ockham would renege on (K) here, when he had insisted on it in the previous article of this very question (quoted in (v) above). The most plausible option is that he did not think the laws governing redemption were truly general.

Two other passages suggest less equivocally that Ockham was open to the idea of non-general laws governing redemption. (ix) In *Reportatio* III, q.5, Ockham considers the question of whether the Blessed Virgin earned merit during her whole life. His first reaction is that "perhaps God has ordained that when she elicits a good act she earns merit, but when not, then He ordained that she was not obligated to elicit act meritoriously."[139] Ockham's remark here is tentative; he does not think this is the only defensible answer. Nevertheless, he seems to be saying that for all he knows, established laws to the effect that human beings are obliged to perform or not perform acts of a certain type are not general but carry the rider "unless they are performed by the Blessed Virgin."

(x) Finally, when in *Ordinatio* I, d.41, q.u, Ockham considers whether there is a cause of predestination in the predestinate,

138. (OTh IX, 587).
139. (OTh VI, 156).

he is not fully confident of his reply. Nevertheless, the answer to which he is most inclined involves the admission that some of the laws governing redemption are not general. He writes,

> But there seems to be more room for doubt where predestination is concerned. Insofar as this can be said without prejudice [to a better opinion] and without assertion, there is a cause and reason in some cases of predestination and not in others. The reason is that some will be saved because of merits in such a way that if they had not voluntarily earned merit, they would not be saved. But others are ordered to eternal life merely by special grace in such a way that they are not left to themselves the way others are but are prevented from being able to put some obstacle in the way or from losing eternal life. This is the way it was with the Blessed Virgin and certain others, who were prevented from sinning and losing eternal life by divine grace.[140]

He goes on to say that where the first group is concerned, they are saved because they persevere in a state of grace to the end of their lives and God gives them eternal life as a reward for merit; while those of the second group are saved merely because God wills that they should be.[141]

Even if the above passages suggest that Ockham did not always think of laws as perfectly general prescriptive principles, they are far from proving that he believed the law relative to which God's power is said to be ordered is a completely determinate plan of action specifying everything that God has done, is doing, or will do. Without such a conception of divine law firmly in mind, however, Ockham would not have been warranted in regarding (B) and (C) as either logically or extensionally equivalent. His documented vacillation between the two accounts of ordered power, sometimes within the space of a few columns or pages, cannot be explained away in this fashion. Perhaps Ockham simply assumed that (B), endorsed by so many of his predecessors, and (C), advanced by Scotus, were equivalent. Alternatively he may simply have inherited the difficulty from Scotus, who holds both (J) and (K) while insisting that laws must be general.

140. OTh IV, 606).
141. (OTh IV, 606–607).

## 6. CAN THERE BE TWO OMNIPOTENT BEINGS?

Some medieval theologians attempted to argue that it is contrary to our notion of what an omnipotent being should be to suppose that there could be two simultaneously existent omnipotent beings.[142] And to those who thought omnipotence essential to the divine nature, this reasoning seemed to provide an easy route to the conclusion that there can be at most one God. Such a proof makes knowledge of divine omnipotence epistemologically prior to knowledge of divine unity, however. And Scotus felt that he could not make use of this strategy. For while he was confident of establishing the existence of a first efficient cause of infinite power, he did not think he could prove that the first efficient cause is omnipotent. Again, Ockham thinks that he can prove the existence of a first efficient cause and of a being than which none is more perfect. But he denies that natural reason alone can yield the further conclusion that either of these beings is omnipotent. Nevertheless, to be of some use, the above strategy requires not that natural reason establish

(A) There exists an $x$ such that $x$ is a first efficient cause and $x$ is omnipotent,

or

(B) There exists an $x$ such that $x$ is a being than which none is more perfect and $x$ is omnipotent,

but rather

(C) Necessarily, for every $x$, if $x$ is God, then $x$ is omnipotent.

For it would follow from (C) together with the claim that there

142. Richard of St. Victor, *De trinitate* I, c.25, (PL, 196, col.902). St. Bonaventure, *Sent.* I, d.2, q.1, a.un, arg.2. Henry of Ghent, *Summae quaestionum ordinararium*, a.25, q.3, in opp.10.

cannot be two omnipotent beings, that there can be at most one God.

An examination of Richard of St. Victor's argument that there cannot be two omnipotent beings, together with Scotus's and Ockham's reactions to it, will not only clarify their conceptions of omnipotence, but also raise a query as to whether Ockham should not have regarded (C) as demonstrable by natural reason alone.

Scotus elaborates Richard's reasoning as follows, using the term 'possible' to refer to contingent beings only and not to both contingent and necessary beings:

> ...Just as an omnipotent being can by its will produce anything possible, so by its willing against it can prevent or destroy every possible. But if *a* is omnipotent, it can will the existence of everything other than itself and so by its willing produce them in existence. But it is not necessary that *b* should will everything to exist that *a* wills, since *b*'s will is contingently related to them, just as *a*'s will is related to those that *b* wills, if it is God. Therefore, if there are two omnipotent beings, each of them could make the other powerless, not by destroying it, but by preventing it and by willing against the existence of those willed by the other...[143]

This argument is intended as a *reductio ad absurdum* of the claim that there are two omnipotent beings, and may be set out as follows.

Suppose (i) There are two omnipotent beings—*a* and *b*.

(ii) Necessarily, if *a* is omnipotent and *a* wills the existence (nonexistence) of a producible *x*, then *x* exists (does not exist).

(iii) Necessarily, if *b* is omnipotent and *b* wills the existence (nonexistence) of a producible *x*, then *x* exists (does not exist).

(iv) Possibly (*a* wills the existence of a produci-

143. *Ord.* I, d.2, q.3, n.180, (Vaticana II, 235).

ble $x$ and $b$ wills the nonexistence of $x$).

Suppose (v) $a$ wills the existence of $x$ and $b$ wills the nonexistence of $x$. (iv)

Therefore (vi) $x$ exists, (i, iii, and v)

Therefore (vii) $x$ does not exist. (i, iii, and v)

Therefore (viii) The conjunction of (i), (ii), (iii), and (v) entails a contradiction.

Therefore (ix) (i) is impossible.

(ii) and (iii) are instances of the claim that the will of an omnipotent being cannot be obstructed, and are thus taken as necessary truths. (iv) makes the assumption that $a$ and $b$ are voluntary agents. Yet nothing in the above discussed analyses of omnipotence in (D3), (D6), or (D8) entails, without further premisses, that an omnipotent being must be a voluntary agent. Hence (iv) seems to restrict the conclusion of the argument to the claim that there cannot be two voluntary agents that are omnipotent beings. But does it establish even that much?

If the conjunction of (i), (ii), (iii), and (v) entails a contradiction, then it follows that that conjunction is necessarily false. Since (ii) and (iii) are both necessary truths, the necessary falsity of the whole conjunction cannot be due to them. Thus, we can infer that the conjunction of (i) and (v) is necessarily false. But it will not follow further that (i) is impossible unless it can be shown that (v) is likewise a necessary truth—which there is no reason to accept. Indeed, Scotus notices the objection that "they agree in their will, although there is no necessity, but as it were they have made a pact."[144] For all the above argument establishes, (i) may be true so long as (v) is false, even contingently false.

144. *Ibid.*, n.181, (Vaticana II, 235); cf. *Quodl.* q.7, n.35, (Wadding XXV, 311).

Scotus replies,

> ...still I prove that neither of them will be omnipotent. For if *a* is omnipotent, it can by its own will produce any willed producible other than itself. It follows from this that *b* could not produce any by its willing and so would not be omnipotent. Moreover, that this follows, is clear from the fourth way, since it is impossible that there should be two total causes of one effect. For given that it is wholly caused by one, it is impossible that it should be caused by another.[145]

Scotus's point is that even if *a* and *b* agreed in all their volitions, it cannot be that each volition is a total cause of the willed effects. The reason is that it is impossible that one and the same effect simultaneously have two total efficient causes. Apparently, his argument would continue that since there is no more reason to suppose that the volitions of *a* would be the total cause than the volitions of *b*, and since they cannot both be total causes, then it must be that neither is a total cause of any such effect. Hence the will of each would be obstructed and neither would be omnipotent.

Ockham rejects this further argument of Scotus's when he insists that it is possible that one and the same effect should simultaneously have two total causes (see Part Four, chapter 18 above). Causal overdetermination is a possibility.

Nevertheless, one might wonder whether there is not something right in the intuition behind Richard of St. Victor's argument. The argument shows that the conjunction of '*a* is omnipotent and *b* is omnipotent and *a* wills that *x* exist and *b* wills that *x* not exist' is necessarily false. (iv) says that the last two conjuncts are mutually consistent—from which we can infer the possibility that one of the first two conjuncts is false. That is, if we accept (iv), then either or both of '*a* is omnipotent' and '*b* is omnipotent' is a contingent truth. This in itself might not be such an odd result. We have not seen any argument to show that any being that is omnipotent must be necessarily omnipotent. Further, so long as *a* and *b* are contingently omnipotent, it may be a contingent truth (indeed even a chance fact)

145. *Ord.* I, d.2, q.3, n.181, (Vaticana II, 236).

that their volitions always agree. Their joint omnipotence in no way implies that either is in any way unfree in the exercise of its power. Nevertheless, there is the odd result that if *a* and *b* are both omnipotent, continued omnipotence in each depends in part on what the other wills, and any disagreement in which *a* wills the truth of *p* and *b* wills the falsity of *p* has the necessary consequence that either or both ceases to be omnipotent. We may question the adequacy of any analysis of omnipotence that has such a consequence.

These doubts are only reinforced by a consideration of the related question of whether there can be two necessarily existent essentially omnipotent beings. The above argument shows that '*a* is omnipotent and *b* is omnipotent and *a* wills that *x* exists and *b* wills that *x* does not exist' is necessarily false. If the first two conjuncts are necessary truths, it follows that the conjunction of the last two is necessarily false and hence that (iv) is false. Alternatively, if (iv) is true, then it must be impossible that

(i′) Two necessarily existent, essentially omnipotent beings exist.

But we should be warranted in concluding the impossibility of (i′) instead of the falsity of (iv), only if either (i′) entailed (iv) or there was some independent reason to think (iv) acceptable. If 'omnipotence' is understood in (i′) according to the analysis in (D6) or (D8), then (iv) does not follow from (i′). For while (D6) or (D8) assigns an omnipotent being the power to bring about nearly everything producible, it makes no mention of the freedom to exercise that power however it likes. Again, although (D6) or (D8) does seem to yield the conclusion that the will of an omnipotent being cannot be hindered, it does not further assert that any omnipotent being that is a voluntary agent is free to will whatever he likes.

Alternatively, the inference that (i′) is impossible, might be warranted if there were some independent grounds for accepting (iv). Scotus suggests such a ground when he says that "*b*'s will is contingently related to them just as *a*'s will is related

to those that *b* wills, if it is God."[146] Scotus is probably alluding here to his purported proof that the first efficient causes acts by will and wills what it wills contingently. But even if his proof were successful, it would not follow that (iv) was true. For it would be compatible with this supposition that the will of the other omnipotent being was necessarily and completely controlled by the volitions of the first.

Nevertheless, even if strictly speaking a being may have powers that it is never free to exercise, there is something right about the view that such powers are as good as no powers at all. Aquinas expresses this sentiment when he remarks that God can only do what He can will.[147] Perhaps on reflection we should not say that a being that has all the productive powers assigned by the right-hand of (D6) or (D8) is omnipotent, if its exercise of these powers is completely controlled by another or entirely dictated by the necessity of its nature. Thus, (D6) might be replaced with

(D9) God is omnipotent, if and only if (a) God has the power acting alone to bring about any logically possible, producible state of affairs such that it is not logically impossible that God should act alone to bring it about, and (b) God's exercise of these powers is controlled neither by the necessity of His nature nor by the actions of another, nor is His possession of them dependent on the way anything else is;

and (D8) with

(D10) God is omnipotent, if and only if (a) for every proposition *p* (if *p* is consistent and its truth can be brought about, and *p* does not entail that God does not act alone to bring about the truth of *p*, then God has the power, acting alone, to bring about the truth of *p*,

146. *Ibid.*, n.180, (Vaticana II, 235).

147. *In I Sent.* d.47, q.1, a.1 ad 4, (Mandonnet I, 1067); *Summa contra gentiles* II, c.25.

> and (b) God's exercise of these powers is controlled neither by the necessity of His nature nor by the actions of another, nor is His possession of them dependent on the way anything else is.

Where 'omnipotent' in (i') is understood in the sense of (D9) or (D10), it seems that (iv) does follow from it as well as from (i) similarly interpreted. And it will follow that there can be neither two necessarily existent, essentially omnipotent beings nor two contingently omnipotent beings.

What is important for our purposes, however, is that Ockham takes no interest whatever in such modifications of (D6) or (D8), but rather seems quite content to allow that an omnipotent being may have powers that it is never free to exercise. Confronting Scotus's statement and defense of Richard's argument, Ockham writes

> In reply to the last—viz., concerning the seventh way—I maintain that it cannot be demonstrated that God is omnipotent, but this is held by faith alone. Even supposing that it could, it can be said that the will of one is naturally conformed to and in agreement with the other, that whatever the one wills, the other wills by natural necessity. Therefore, if *a* wills the existence of something, *b* cannot will against its existence or will its nonexistence. For it cannot be demonstrated that *b* wills it freely and contingently and indifferently. Therefore, it does not follow that *a* could make *b* powerless.[148]

*b* is not powerless, because it exercises its power to produce various things. It is just that *b*'s exercise of power is not free, but is controlled by *a* and follows *a*'s exercise of power by natural necessity. And indeed, just as (D6) or (D8) suggests, *b* may be omnipotent even if *b* is not free in the exercise of its manifold powers. The free exercise of the powers mentioned in the right-hand side of (D6) or (D8) is not a requirement for omnipotence on Ockham's view. And he entertains the suggestion that there might be two omnipotent gods without objecting that omnipotence cannot be possessed by two things simultaneously.[149]

148. *Quodl.* I, q.1, (OTh IX, 11).
149. *Ord.* I, d.20, q.u, (OTh IV, 36–37).

At this point we may return to the question of whether Ockham should have regarded

(C) Necessarily, for every $x$, if $x$ is God, then $x$ is omnipotent,

as provable by natural reason. Ockham has claimed to prove by natural reason alone that

(D) Necessarily, for every $x$, if $x$ is God, then it is not possible that anything should happen contrary to $x$'s efficacious will.

When the consequent of (D) is expanded, it becomes

(E) Necessarily, for every $x$, if $x$ is God, then necessarily (if $x$ wills that $p$ is true, then $p$ is true).

Why is proving (E) not tantamount to proving (C)? (i) Perhaps it will be replied that to prove of a possible being $x$ that it is necessary that if $x$ wills that $p$ is true, then $p$ is true, is not to prove that that being is omnipotent. For the latter hypothetical is trivially true about any $x$ that cannot will anything. Thus, it is as much true of a stone that its will cannot be obstructed as it is of God. Not only that, but the argument that was given to prove (E) could be adapted to prove that a stone's will cannot be obstructed. For it is as true of any stone as much as of God that it is not the kind of thing that can be sad. Nevertheless, we would not want to say that a stone is omnipotent. For the same reason, (E) alone does not entail (C).

One might grant the last conclusion, but suggest that (C) follows from (E) together with

(F) Necessarily, for every $x$, if $x$ is God, then $x$ is a voluntary agent.

For (F) would insure that (E) was not trivially true of God simply by virtue of His not being the kind of thing that could will anything. Further, it would seem that there should be no more

problem in knowing by natural reason the truth of (F), than there is in knowing by natural reason the truth of

(G) Necessarily, for every $x$, if $x$ is God, then it is not possible that $x$ is in any way sad.

And this is so even if there might be a problem about proving (A) or (B). So why should (E) and (F) not constitute a proof of (C) by natural reason alone?

(ii) Perhaps it will be objected that even if it is known that God is a voluntary agent, the consequent of (E) might be trivially true by virtue of the being who is God not willing any thing. And we would not want to call omnipotent a being whose will is never obstructed simply because it never wills anything.

This objection is mistaken. If the schema 'if $x$ wills that $p$ is true, then $p$ is true' expressed merely a material conditional, then the schema could be true simply by virtue of the falsity of the antecedent and would be true of any being who never willed anything. But in the consequent of (C) that schema is not asserted as a material implication but as an entailment. Such a schema cannot be necessarily true of a being simply by virtue of *the fact* that it never wills anything. Rather it could be trivially true of a being only if it were logically impossible for that being to will anything. But the latter is ruled out by (F). For a being cannot be a voluntary agent if it is logically impossible that it should will anything.

(iii) Perhaps it will be said that (E) and (F) do not entail (C) because some assurance is needed that the being whose will cannot be obstructed is free to will a sufficiently wide range of things. For instance, there might be a being that was able only to will to drink tea or to will not to drink tea. Even if its volitions to drink tea or not to drink tea could never be hindered, we would not want to say that such a being was omnipotent, because it would not be free to do very much.

But here we have to ask what sorts of barriers to a thing's freely willing are being proposed. To be sure, if a being were such that it was *logically* impossible for it to will anything except to drink tea or not to drink tea, and if the only way it could

do anything was by willing, we should not want to say that such a being was omnipotent. (We might well ask whether such a being is really conceivable.) But if this were merely a natural impossibility, then Ockham could not consistently regard this as a barrier to omnipotence.

Similarly, if there were reason to think it logically impossible that God should will the truth of various propositions that are consistent and such that it is not impossible that their truth should be brought about and such that it is not impossible that God should bring about their truth acting alone, then (E) and (F) notwithstanding, it would be odd to say that God is omnipotent. But if it were only naturally or causally impossible for Him to will various of these, then Ockham cannot consistently regard this as a barrier to divine omnipotence.

If to prove (C) from (E) and (F), it were necessary to know

(H) For every proposition $p$, if $p$ is consistent, and $p$ does not entail that $p$'s truth cannot be brought about and $p$ does not entail that $p$'s truth cannot be brought about by God acting alone, then it is *causally* possible that God wills the truth of $p$,

the prospects for proving (C) would seem no better than for establishing (A) or (B). For it is difficult to see how we could possibly come to know (H) by natural reason alone. But if the required premiss is

(J) For every proposition $p$, if $p$ is consistent and $p$ does not entail that $p$'s truth cannot be brought about and $p$ does not entail that $p$'s truth cannot be brought about by God acting alone, then it is *logically* possible that God wills the truth of $p$,

matters might seem more hopeful. To be sure, it is difficult to see how (J) could be proved from anything more evident. But on the other hand, it is difficult to see what reason there could be to doubt (J) either. Nevertheless, it may be that Ockham would not have found (J) evident enough to be the basis of a

proof from natural reason. For the truth of (J) depends in effect on there not being any counterexamples to the analysis of omnipotence arrived at in (D6) or (D8). The fact that we have not thought of such counterexamples and that we do not see how there could be any, does not guarantee that there are none. Hence, it does not guarantee the truth of (J) either.

Even if Ockham had been convinced that natural reason could prove (C) from (E), (F), and (J), that would not have put him in a position to use Richard of St. Victor's argument to establish divine unity as well. For it is precisely Ockham's rejection of an analysis of omnipotence that would sustain Richard's argument, that brings him so close to a proof of divine omnipotence in the first place.

## 7. CAN GOD MAKE THE PAST NOT TO HAVE BEEN?

Can God make the past not to have been? Debate about this question was clouded by its ambiguity; where *e* is something that occurred in the past, the question could mean either

(K) Does God have the power now to bring it about that both *e* occurred at *t* and it is not the case that *e* occurred at *t*?

or

(L) Does God have the power now to bring it about that at *t'* (later than *t*) '*e* occurred at *t*' was true and 'it is not the case that *e* occurred at *t*' was false, while at *t''* (later than *t* and *t'*) '*e* occurred at *t*' was false and 'it is not the case that *e* occurred at *t*' was true?

—i.e., does God have the power to *change* the past—or

(M) Does God have the power now to bring it about that *e* did not occur at *t* (granted that He eternally never exercizes that power)?

In *Summa theologiae* I, q.25, a.4, Aquinas argues, in effect, that

(D2) requires a negative answer to (K):

> ...Nothing that implies a contradiction falls under the omnipotence of God. But for the past not to have been, implies a contradiction. For just as it is contradictory to say that Socrates sits and does not sit, so also that he sat and did not sit. But to say that he sat is to express what is past; that he did not sit, what was not. Thus, for the past not to have been, is not subject to divine power...

And again,

> if the past is considered under the aspect of being past, it is impossible for it not to have been, not only through itself, but absolutely, and it implies a contradiction. Thus, it is more impossible than the rising of the dead, which does not imply a contradiction but is said to be impossible relative to some—evidently, a natural—power. For the latter impossibles are subject to divine power...[150]

But Aquinas evidently thinks that he has established a negative answer to (M) as well. From considering Jerome's question, whether God can make a corrupted virgin incorrupt, Aquinas replies that He can repair the physical and spiritual damage to the woman (so that she was physically and spiritually sound at $t_1$, physically and spiritually corrupted at $t_2$, but physically and spiritually sound again at $t_3$), but He cannot bring it about that she will not have been corrupt at $t_2$.[151]

Aquinas's assumption is not obviously warranted. For while (D2) does not assign God the power to make this woman to have been corrupt and never to have been corrupt, on the ground that the latter is contradictory, it cannot for the same reason deny Him the power to make this woman never to have been corrupt, since the false proposition 'This woman was never corrupted' is not contradictory. According to Ockham's younger contemporary Gregory of Rimini,[152] Aquinas's assumption would have been challenged not only by "some an-

150. Ad 1.
151. Ad 3.
152. *Super primum Sententiarum*, d.42–44, q. 1, a.2.

cient doctors"[153]—viz., Gilbert Porretanus, in his commentary on Boethius's *De trinitate*, and William of Auvergne, in his *Summa* I, a.6, Treatise on God's Power—but also by some doctors still alive at the English university,[154] who insisted that false negative existential propositions about the past such as 'Adam never existed' are no more contradictory than false ones about the future such as 'The Antichrist will never exist'.[155]

Gregory records that some defended a negative answer to (M), retorting that "the claim that 'Adam did not exist' does not entail the falsity of a first principle, should not be granted," because "there are many propositions that imply or entail contradictories and yet cannot be evidently shown to imply contradictories." For example, they say that 'God is not a Trinity of persons' and 'There are many gods' imply contradictories but cannot be evidently shown to do so.[156] They also list many authoritative citations in which the necessity of the past is asserted.[157] But without further elaboration, their motive for saying that the past nonexistence of Adam is impossible and for insisting on a negative answer to (M) remains obscure.

Although Ockham does not discuss these issues as explicitly as one would like, he does argue that a negative answer to (K) commits one to a negative answer to (L), using the premiss

(N) Necessarily, what is once past is always past.

Aquinas doubtless took (N) for granted, and Ockham makes it explicit in the following passage:

> ...it is generally conceded by philosophers and theologians that God cannot make what is past not to be past without its afterwards being true to say that it was past...[158]

153. *Ibid.*, (Venice, 1522, fol.162rb G–H), (repr. St. Bonaventure, NY, 1955).
154. *Ibid.*, fol.163ra D.
155. *Ibid.*, fol.162rb E.
156. *Ibid.*, fol.164vb Q–165ra A.
157. *Ibid.*, fol.162vb N, fol.163vab M–N.
158. *Ord.* I, d.38, q.1, trans. in *Predestination, God's Foreknowledge,*

And he reasons that

> ...if the proposition 'This thing is'—something or other having been indicated—is true now, then 'This thing was' will be true forever after, nor can God in His absolute power bring it about that this proposition is false.[159]

The reason is that if '$x$ existed' was true at $t_m$ and God brought it about that '$x$ existed' was false at a later time $t_n$, then—by (N)—'$x$ existed' would be both true and false at $t_n$—which is a contradiction.

Given (N), any attempt to change the past constitutes an effort to make contradictories true simultaneously—which (D2) disallows even to God. The puzzlement rearises, however: why would anyone accept (N)? In his commentary on Aristotle's *Perihermenias*, chapter 9, and in his own discussion of free choice, Ockham appears to take the following Aristotelian principle for granted:

(Q) If $x$ has a potency for opposites—i.e., has a potency for $p$ and a potency for not-$p$, the potency for $p$ (not-$p$) does not survive the reduction of the potency for not-$p$ ($p$) to act.

If in the past there was a potency for opposites, one of them has by now been actualized to the exclusion of the other, and there is no longer any potency for the opposite. If Adam existed, his existence cancelled whatever potency there was in things for his never having existed. Hence, no one and nothing now has the power to actualize such a potency, and the answer to (M) is negative.

Ockham concluded that the past was necessary. Whereas other modern doctors had expressed this view by saying that "every proposition about the present has corresponding to it a

*and Future Contingents*, Appendix I, Z, 85.

159. *Predestination, God's Foreknowledge, and Future Contingents*, q.1, (Adams and Kretzmann trans., A, 36); cf. *Summa logicae* I, c.59, (OPh I, 189); *Ord.* I, d.30, q.2, (OTh IV, 323–24).

necessary one about the past," Ockham is careful to stipulate that this applies only to propositions that are about the present both as regards their wording and as regards their subject matter (*secundum vocem et secundum rem*), and not to those that are present tense but whose subject matter is future.[160] He evidently does not think (because he never says) that false propositions about the past are contradictory, although he does think the necessity of the past is enough to validate inferences whose validity depends on the necessity of one of the components.[161] William of Sherwood had called such necessity "necessity *per accidens*".[162] If no contradiction is involved in God's bringing about some non-actual past states of affairs, however, Ockham will be forced to modify (D8) by adding "and *p* is not a false proposition about the past" to the antecedent of the right-hand side. Ockham could still retain the thesis that God can make any entity He could ever make and destroy any He could ever destroy, but He could not make these fit just any description, because He could not act now to make them fit the descriptions 'produced in the past' or 'destroyed in the past'.

Our discussion in chapter 27 will already have alerted us to the fact that (Q) seems to threaten the common contention against Abelard and the Arabs that God can do otherwise than He does. For all parties to the dispute agreed that

(R) Necessarily, God is immutable,

and

(S) God eternally wills whatever He wills.

The conjunction of (Q), (R), and (S) entails

(T) From eternity, God has not been able to will otherwise than He wills;

160. *Predestination, God's Foreknowledge, and Future Contingents*, Assumption 3, (Adams and Kretzmann trans., M, 46–47).

161. *Summa logicae* III-3, c.6, (OPh I, 608).

162. *Introduction to Logic*, chap.1, sec.23, (Kretzmann trans., 41).

and by

(U) Necessarily, if God does $x$, He does $x$ by willing to do $x$,

it follows further that

(V) From eternity, God has not been able to do otherwise than He does.

(T) and (V) seem incompatible with

(W) God's choices regarding creatures are free and contingent,

which is a central tenet of medieval theology and one that Ockham goes to great lengths to preserve.

We have already seen in chapter 27 how Duns Scotus tried to reconcile (Q) with the conjunction of (R), (S), and (W) by appealing to his doctrine of instants of nature. Briefly, since God is eternal and immutable, there is no temporal succession in the divine deliberative process, so that at an earlier time $t_1$ God thinks of the alternatives and has a potency for choosing $p$ and a potency for choosing not-$p$, and then at a later time $t_2$ He actualizes the potency for choosing $p$ (not-$p$) to the exclusion of the potency for choosing not-$p$ ($p$) and hence no longer has any such potency. Nevertheless, there is a natural priority between God's considering the alternatives and His having the power, on the one hand, and His choice among them on the other. Hence, Scotus argues that within the now of eternity there is a plurality of instants of nature; and at an earlier instant of nature $n_1$ God has a capacity for opposites without succession, while at $n_2$ He actualizes one of these to the exclusion of the other.

Having rejected Scotus's doctrine of instants of nature (see chapters 24 and 27 above), Ockham tries to reconcile (Q) with (R), (S), and (W) in a different way. To be sure, (R) does apply to God's real mental act; and (Q) is true about what is immutable and real. Thus, speaking about God's knowledge of a future contingent proposition, Ockham remarks that taken one way, it

signifies the act of cognition identical with the divine essence, and "whatever is immutable and real is necessary".[163] But Ockham assumes that for some *p*, nothing about that real mental act, considered as it really is in itself, determines whether it is directed towards *p* or towards not-*p* instead. Assuming that (Q) does not apply to the direction of the divine mental act towards its intentional objects, Ockham insists that for some *p*, it is directed towards *p* both actually and contingently, so that while it is actually directed towards *p*, it is still in potency for being directed towards not-*p*. This is true where *p* is contingent, that is, where there remains in the way things are a potentiality for opposites. Reverting to his earlier argument from (Q), Ockham believes that no propositions about the past are contingent in this sense, whereas propositions about future free acts are contingent. Hence, God's consequent disposing will regarding such matters is contingent, in that while He wills *p* from eternity, He is still in potency for willing not-*p*, so long as the event in question is future. For example, God willed from eternity that Peter would receive supreme blessedness on Judgment Day. But this consequent disposing will of God is contingent, because Peter's receiving supreme blessedness on Judgment Day is a future contingent.[164] Thus, God's consequent disposing will regarding Peter's receiving supreme blessedness on Judgment Day is eternally determinate but yet His will can never have been determinate with respect to it—contrary to (Q). After Judgment Day, however, God's consequent disposing will, will be directed to 'Peter received supreme blessedness on Judgment Day', which will be a necessary proposition about the past. Hence, God's consequent disposing will regarding Peter's eternal happiness is first contingent and then necessary.[165]

163. *Ord.* I, d.40, q.u, (OTh IV, 594); cf. *Predestination, God's Foreknowledge, and Future Contingents*, q.1, Reply to Objection 5, (Adams and Kretzmann trans., F, 41); q.2, a.4, (Adams and Kretzmann trans., L, Part One, 67–68).

164. *Predestination, God's Foreknowledge, and Future Contingents*, q.1, (Adams and Kretzmann trans., D, 39–40).

165. Cf. Gregory of Rimini's summary of this position, *op. cit.*, d.42–44, q.1, a.2, fol.162rb F.

Advocates of an affirmative answer to (M) find Ockham's approach anathema because it seems to imply that the way creatures are, places limits on divine power and freedom.

> ...it should in no way be said that the temporal production of Adam for the first time diminished the liberty and power of the divine will in any way, so that before it is posited in actuality, God will have willed it freely and contingently and was able not to will it, and when it is posited, He will have willed it necessarily and could not, not have willed it.[166]

Neither the scope of God's absolute power, nor that of the power He can exercise by willing can be limited by any creature; rather it depends entirely on factors "internal" to the divine essence. Thus, if it were now impossible for God not to have willed to produce Adam, this would not be because Adam existed, but because from eternity God did will to produce Adam. By the same token, however, God willed from eternity to produce the Antichrist in the future; and yet everyone agrees that He wills this freely and contingently.[167] Hence, "even though from eternity He has willed to produce Adam, He can, nevertheless, not have willed and can have willed not to produce him, just as He was able to do from eternity."[168] And in general, "whatever God was able to will from eternity, He can now have willed from eternity, and what He was able not to will, He is able not to have willed."[169] And since God's (consequent disposing) will is necessarily efficacious, it is no more impossible for the past not to have been than for the future not to be going to be. As thus incompatible with the immutability of divine power and divine freedom, (Q) must be false.

Against this rebuttal of Ockham's position, Thomas Buckingham offered a different argument that God cannot make the past not to have been, based on the familiar medieval causal principle that

166. *Ibid.*, fol. 162rb G.
167. *Ibid.*, fol. 162rb F–G, H.
168. *Ibid.*, fol. 163rb E–F.
169. *Ibid.*, fol. 162rb E; cf. fol. 162ra C, fol. 162rb H, and fol. 163ra D.

(X) Necessarily, causes are simultaneous with their effects

(see Part Four, chapter 18 above). Accordingly, no present action can be a cause that produces or prevents any past state of affairs. Thus, he argues,

> ...if God could make a past thing not to have been, either He could do this positively—viz., by effecting it or something having to do with it—or negatively—viz., by effecting or doing nothing. Not the first way. For suppose He made it or something else anew. Still, this would not make it not to have existed before. Not the second way, because—since it is now true that it was—if God did or changed nothing regarding it, it will always be true that way it is now. Therefore, there seems to be no way in which God could make it not to have been.[170]

Further, if there were something He could do now, it seems that He could change the past. And this supposition entails that contradictories would be true simultaneously, as Ockham argued.[171] Neither will the denial that God has the power to bring about non-actual past states of affairs require an amendment of (D6), since—by (X)—non-actual past states of affairs are not now producible.

Buckingham assumes his opponents to be asserting that God has the power *now* to do something *now* that has the effect that something did or did not occur *in the past* (which did not or did occur in the past). But adhering to (X), they would no more allow that than they would assert that God has the power *now* to do something *now* that is, properly speaking, a sufficient cause of something's occurring or not occurring in the future (which will not or will occur in the future). Rather they are saying that He has the power *now* to have done something *then*, just as He has the power *now* to do something *later*.[172] Thus, just as God has the power now not to give Peter supreme blessedness on the Day of Judgment (although He will do so), so He has the power now never to have created Adam in the past

170. *Ibid.*, fol. 163vb N–O; cf. fol. 162vb O–P.
171. *Ibid.*, fol. 163vb Q.
172. *Ibid.*, fol. 164va M.

(although He did do so). Nor are they admitting that God has the power to change the past:

> ...Rather just as it should be understood regarding the future that before it comes to pass God has the power to make it not to be in the future, not because He could change it from being future to not being future, but because He can not be going to make it; so it should be understood regarding the past that He can make it not to have been, because He can never have made it.[173]

To change the past or future, God would have to exercise both His potency for *p* and His potency for not-*p*—which, as Scotus quipped, "is nothing" to do. They merely insist that His exercise of the one does not—contrary to (Q)—cancel the other.

In sum, Ockham and his opponents agree on (W)—that God's choices regarding creatures are free and contingent—as well as that (K) and (L) get negative answers—that God does not have the power to make contradictories true simultaneously or the power to change the past. But they assert, while he denies, that God can make the past not to have been—that (M) gets an affirmative answer. The principal issue between them is whether (Q) applies to real things as they really are. Ockham insists that it does, and this leads him to believe that the past is necessary *per accidens*, in that once it has been posited, there is no longer any potency in anything for it not to have been posited. Ockham does not think that (Q) applies to the direction of a mental act towards its intentional objects, however, because he believes that for some pairs of opposites, nothing about the way the divine mental act (which is simultaneously an act of knowing and willing) really is, directs it towards one object rather than its opposite. Where creatures are concerned, whether the direction is one way rather than another and necessary or contingent, is settled, not by anything internal to God—but by whether and which creatures exist, and whether or not they have already been posited in actuality. If *p* is a proposition about some merely past state of affairs, God wills *p* in such a way that it is no longer possible that He not will *p* and no longer

173. *Ibid.*, fol. 164vb O–P.

possible that He never have willed $p$; but where $p$ is a proposition about the future free act, God's consequent disposing will of $p$ is compatible with the possibility that He not will $p$ and never have willed $p$. Ockham's opponents, on the other hand, believe that the scope of divine power and the modality of divine volition depend entirely on factors internal to God. Since they insist on (W), they reject (Q) so far as the divine volition is concerned, and maintain that whatever God wills or has willed or will will, He wills it in such a way that it is still possible for Him not to will it and possible that He never have willed it.

## 8. DIVINE OMNIPOTENCE AND SECONDARY CAUSES

Some theologians have thought that the doctrine of divine omnipotence should be rejected, because it would deny to creatures any genuine causal and productive role in the world. The most straightforward argument for this conclusion goes as follows: if God is omnipotent, then He has all of the power and creatures have none of the power. And without productive power, creatures cannot act to produce anything.

While seductive, this reasoning misrepresents the doctrine of divine omnipotence as Ockham and other medievals understood it. For the '*omni*' in 'omnipotence' or the 'all' in 'all-powerful' ranges, not over powers, but over objects of power. Hence the doctrine of divine omnipotence asserts, not that God has all of the power, but that He has the power to do *every*thing (where the appropriate restrictions are understood). Thus, Ockham writes

> ...But I say that 'omnipotence' is a name that is equivalent to a distributive sign and its distributable [term] together with another term in the nominative case, since an omnipotent being is the same as one that is able to do everything doable, so that here 'doable' or 'doables', not 'power', is distributed. For if there were two omnipotent gods, it would be said of each that it was omnipotent. Nevertheless, the power of neither would contain the power of the other...[174]

174. *Ord.* I, d.20, q.u, (OTh IV, 36–37).

The point is that often two beings may simultaneously have the power to bring about *E* even though it may or may not be possible that both should exercise these powers simultaneously. Since the beings are distinct, the powers are distinct, but the objects of the powers are the same. Scotus makes the same point in *Quodlibeta*, q.7:

> ...Omnipotence also includes a certain universality. Not, to be sure, of the power in itself; for omnipotence is not formally every power whatever, since it is not any creature's power. But the universality is of the power, not absolutely, but in relation to the causable object that is possible or creatable. Thus, the sense is this: omnipotence is active power that ranges over each and every creatable object.[175]

And we have discussed in preceding sections how 'every creatable object' needs to be qualified.

The answer to this first objection gives rise to a second, that an omnipotent God will have a monopoly on productivity. Suppose that both Abraham and God have the power necessary to produce Isaac. Still, it would seem that if God exercises His power to produce Isaac, he thereby denies Abraham any genuine productive role in the generation of Isaac.

Some philosophers tried to solve this problem by admitting that if God acted as an immediate cause of every created effect, then every secondary cause would be superfluous.[176] But God could act as a mediate cause in the production of Isaac by acting to produce Abraham, who in turn acts alone to produce Isaac. Similarly, we could say that God is the mediate cause of most effects in the created world without denying creatures a genuine productive role.

Ockham rejects this solution, however, insisting that a mediate or remote cause

> ...is not a cause. For at its presence, the effect does not follow. Otherwise Adam could be said to be a cause of me, which is not true, since non-being cannot be the cause of being.[177]

175. (Wadding XXV, 284).
176. *Rep.* II, q.3–4, (OTh V, 50).
177. *Ibid.*, (OTh V, 61).

The only genuine causes are immediate causes. Hence, by saying the God is not the immediate cause of any effect except the first, this solution denies God any genuine role in their production (see Part Four, chapter 18 above).

Ockham's own view is that in the production of most effects, both God and creatures act as immediate causes. Further, where a total cause is understood to be a causally sufficient condition of the effect, then it is possible for each of God and a creature simultaneously to be a total immediate cause of the same effect. For contrary to Scotus,

> "numerically the same effect can have two total causes at one and the same time. For example, numerically the same heat can be produced by the sun and by fire or by two fires..."[178]

Consequently, it does not follow that if God is a total immediate cause of Isaac that Abraham could not simultaneously be a total immediate cause of Isaac. Nevertheless, Ockham recognizes that such an exercise of divine power—while not obliterating Abraham's power or his exercise of it—would render Abraham's activity superfluous. As he sees it, the best way to do justice both to divine power and creatures' activity, is to say that

> ...God is the sort of agent that can be a total cause of an effect without anything else. Nevertheless, since "God so governs things that He permits them to have their own proper motions," according to Augustine, He does not will to produce the whole effect alone, but acts together with secondary causes as a partial cause even though He is the more principal cause, in such a way that He is an immediate cause of everything when He acts together with secondary causes, just as when He acts without them. Nor are the secondary causes superfluous for this reason, since God does not act in every action according to the limit of His power...[179]

Ockham compares this with the case of a man who is the only one who is able to carry ten stones all by himself and no one else is able to carry ten stones without his help. If the strong man

178. *Quodl.* I, q.1, (OTh IX, 9).
179. *Rep.* II, q.3–4, (OTh V, 72).

chooses not to carry the ten stones by himself but to accept the help of another, then both will be immediate causes of the ten stones' being moved. Nor does the fact that the stronger man is able to do it all by himself make the activity of the weaker man superfluous, so long as the strong man does not act to the limit of his power.[180] In the same way, so long as an omnipotent God does not exercise all of the power He has, creatures can be assigned a genuine, nonredundant causal role in the world.

180. *Ibid.*

# 29

# Divine Omnipotence and the Charge of Theologism

According to his modern critics—most notably Gilson—omnipotence was Ockham's favorite divine perfection. In the interests of maximizing divine freedom and sovereignty over creation, Ockham is supposed to have construed divine omnipotence to imply

(A) For any creature $x$ and any creature $y$ ($y \neq x$), it is logically possible that God produce $x$ without producing $y$ and logically possible that God produce $y$ without producing $x$,

from which he allegedly infers the more restricted theses

(B) Whatever God can produce by means of secondary causes, He can produce immediately all by Himself,

(C) God can make the prior without the posterior,

and

(D) If $x$ and $y$ are distinct in place and subject, God can conserve $x$ without $y$ and vice versa.

These in turn serve as the bases of his important philosophical and theological doctrines. For example, in *Quodlibeta* VI, q.6, he uses all three to argue that an intuitive cognition of nonexistents is logically possible (see Part Three, chapters 13 and 14 above):

In this question, I lay down two theses: The first is that there can by the absolute power of God be an intuitive cognition of a nonexistent object. I prove this first through an article of faith, 'I believe in God the Father Almighty...', which I understand as follows: that whatever does not include an obvious contradiction should be attributed to divine power. But for this to be produced by God does not include an evident contradiction. Therefore, etc.

Further, on that article is founded the famous thesis of the theologians, 'Whatever God produces by means of secondary causes, He can produce and conserve immediately without them.' I argue from this proposition as follows: 'whatever God can do by means of secondary causes, He can do immediately by Himself.' But He can produce a corporeal intuitive cognition by means of the object. Therefore, He can produce it immediately all by Himself.

Further, everything absolute, distinct in place and subject from another thing can, by the power of God, exist when the other absolute thing is destroyed. But a vision of a star—both sensory and intellectual—is of this sort. Therefore, etc.[1]

The same pattern of reasoning is repeated in *Quodlibeta* IV, q.22, where he asks whether God could conserve material substance extended without any locomotion while destroying every absolute accident in it (see Part One, chapter 6 above).

I reply to the question briefly that He can.

I base my proof on the article of faith, 'I believe in God the Father Almighty...' from which article I take the proposition 'Whatever God produces by means of secondary causes, He can produce and conserve immediately without them'. But He expels and introduces many absolute accidents by means of natural causes in the same patient without changing its place...Therefore, God can Himself and immediately destroy every accident in the wood and conserve its substance without any change of place...[2]

And he employs (B) to prove that neither efficient causality,[3] actions,[4] nor quantity[5] is a thing really distinct from substance and

1. (OTh IX, 604–605); cf. *Ord.*, Prologue, q.11, (OTh I, 313); *Ord.* I, d.1, q.3, (OTh I, 417).
2. (OTh IX, 404).
3. *Quodl.* VI, q.12, (OTh IX, 632).
4. *Ibid.* VII, q.3, (OTh IX, 730).
5. *Ibid.* IV, q.25, (OTh IX, 419).

quality.

Gilson finds Ockham's procedure highly objectionable, on three counts. (i) First, Gilson seems to assume that only natural necessity could provide God with a sufficient reason for ordaining that one creature coexist with, precede, or follow another. But (A) entails

(E) For any creature $x$ and any creature $y$ ($y \neq x$), it is logically possible that $x$ exist and $y$ not exist and logically possible that $y$ exist and $x$ not exist,

which in turn allegedly entails

(F) No creature coexists with, follows, or precedes another by any natural necessity.

Gilson regards (E) and (F) as tantamount to denying that there are any created natures, at least in the sense that Aquinas understood natures.[6] Hence, God's free choices in such matters cannot be based on a sufficient reason and will be arbitrary. As Gilson sees it, Ockham's determination to secure divine freedom has compromised His wisdom (see chapters 30-31 below).

(ii) Second, Gilson contends, what natural reason is equipped to know in this life is creatures and their natures. If there are no naturally necessary connections among creatures, the only way to know with certainty that creatures of one sort coexist with, precede, or follow creatures of another sort is to know with certainty what God has freely and contingently chosen. But Ockham himself has denied that natural reason can prove (A) or equally that God is a free and not a natural cause. A fortiori, it cannot prove that God has freely and contingently established one thing rather than another. The result is scepticism about our

6. Etienne Gilson, *The Unity of Philosophical Experience*, chap.3, 86. Mary Ann Pernoud refers to Ockham's emphasis on the "singularity" and "separability" of things in "Innovation in Ockham's References to the 'Potentia Dei'," *Antionianum* 45 (1970), 74–75.

having scientific knowledge of the created world.[7]

(iii) Finally, Gilson opposes any use of purely theological premisses such as (A) that cannot be proved by natural reason alone, to establish philosophical conclusions. For such "theologism" compromises the status of philosophy as a system of truths knowable by natural reason alone.[8]

How Ockham would deal with the first two of these objections is easily extrapolated from his works and is dealt with at length in other chapters. (Ri) In response to the first, Ockham would reject Gilson's standard of what it takes for an action to be reasonable. If for God to be reasonable in ordaining that *B*'s follow *A*'s, there must be a naturally necessary connection between *A*'s and *B*'s; by the same token, for God to be reasonable in making *A*'s, there would have to be something that made His production of *A*'s necessary—in which case creation would not be contingent, contrary to medieval theology. Indeed, if Aquinas had accepted Gilson's standard of wisdom and reason in divine action, he could not consistently have regarded God's creation of this particular world instead of another as wise and rational; for Aquinas contends there was no necessity in His making one rather than another.[9] According to Ockham, God's policies are nonarbitrary in that they serve His purposes. And he holds that if the ordinances God has actually chosen are not perfectly general, they are at least highly regular (see chapter 31 below).

(Rii) Ockham would charge that the second objection misrepresents his position. For denying to natural reason the ability to prove propositions of the form 'God has freely chosen to make *p* true', is not to deny it the resources to prove those propositions substituted for '*p*'. For example, where *p* is the proposition 'Heat heats', Ockham thinks that we cannot prove

7. Gilson, *op. cit.*, 78. Gordon Leff, *Medieval Thought: St. Augustine to Ockham*, 190–91, quoted in Mary Ann Pernoud, "The Theory of the 'Potentia Dei' According to Aquinas, Scotus, and Ockham," *Antonianum* 47 (1972): 69–95, at 70.

8. Gilson, *op. cit.*, 62–63.

9. *Summa theologiae* I, q.25, a.6.

that God has freely chosen that heat should heat (see section 1 below). But we can acquire certain knowledge that heat heats from our experience of heat (see Part Three, chapter 14 and Part Four, chapter 18 above).

Gilson might object that such certainty is impossible. For if God is the one who determines that heat is followed by and produces heat, then we cannot have logically conclusive evidence that heat heats apart from that decisive divine act. Thus, if we cannot have certain knowledge of the latter, we cannot have certain knowledge of the former either. We have seen in Part Three, chapter 14, however, that Ockham rejects the assumption that certain knowledge of *p* requires logically conclusive evidence for *p* and substitutes a weaker standard according to which true belief caused in the appropriate way sometimes counts as certain knowledge. This is the way it is with 'Heat heats' and the other propositions of natural science.

Whether or not there is any justice in Gilson's third complaint against Ockham is more difficult to assess. In what follows, I shall first review the uncontested evidence that Ockham thinks divine omnipotence and divine freedom cannot be proved by natural reason alone. Then I will examine several attempts to get around Gilson's charge of theologism.

## 1. DIVINE OMNIPOTENCE AND FREEDOM CANNOT BE PROVED BY NATURAL REASON

Anselm thought the existence of an omnipotent God could easily be proved *a priori*. For God is a being a greater than which cannot be conceived. And just as a being a greater than which cannot be conceived must exist in reality and necessarily, since otherwise a greater (that did exist in reality and necessarily) could be conceived of;[10] so a being a greater than which cannot be conceived of must be omnipotent, since otherwise a greater (that was omnipotent) could be conceived of.[11]

10. *Proslogion*, c.2 and 3.
11. *Ibid.*, c.6 and 7.

For those who, including Ockham, found no cogency in Anselm's reasoning, the task of proving divine omnipotence by natural reason proved more difficult. Two theses may be distinguished: the analytical claim that omnipotence is an essential property of any being that is God—

(G) Necessarily, for any $x$, if $x$ is God, $x$ is omnipotent,

from the existential assertion

(H) Some extant being (i) is omnipotent and (ii) is God.

We have seen in chapter 28 how Ockham thinks a claim more restricted than (G)—

(J) Necessarily, for any $x$, if $x$ is God, then it is not possible that anything should be done contrary to $x$'s efficacious will,

can be proved by natural reason alone from the analytic thesis that

(K) Necessarily, for any $x$, if $x$ is God, it is not possible that $x$ should be sad in any way.

It is a further question whether natural reason has any resources adequate to establish (H). Once Anselm's reasoning has been abandoned, the obvious strategy is to appeal to proofs for the existence of God from efficient causality. For if '$x$ is an efficient cause of $y$' does not entail '$x$ knows or conceives of $y$' (see chapter 23 above), it does entail '$x$ has productive, conserving, or moving power with respect to $y$'. If $x$ is *the* total efficient cause of $y$, then it follows that $x$ has the power to produce $y$ acting alone; if $x$ is only a partial cause of $y$, then it follows that $x$ has the power to produce $y$ in conjunction with others. How far will this approach take us towards proving divine omnipotence? In Ockham's opinion, not far enough.

(1.1) To maximize the results of this strategy, it would be useful to prove

(L) There is a single being that is the total efficient cause of every actual effect,

since (L) would entail

(M) There is some one being that has enough power to cause every actual effect.

(L) implies that there is no secondary causality, however, and as such was found contrary both to natural reason and authority. (1.1.1) Some philosophers rejected (L), on the ground that since the causality of the first cause is perfect, it could not be an immediate—and hence not the total—efficient cause of any imperfect effect. Yet, some effects are imperfect. Hence, some less perfect cause must act together with the first cause and account for the imperfection in the effect.[12] (R1.1.1) Ockham thinks such reasoning is contrary to Aristotle's claim that God is the cause of everything other than Himself. For if He is, He must be an immediate cause of some effect. Hence, it is not impossible for the first cause to be an immediate cause of some effect. But every effect is imperfect in some way. Hence, it is not impossible for the first cause to be an immediate cause of some imperfect effect, and what holds for one applies to others as well.[13] (1.1.2) According to Ockham, the real reason philosophers believe that a secondary cause concurs with the first in producing some effects does not have to do with any *a priori* considerations about what sort of effect a perfect cause could produce.

> ...Rather they suppose that a secondary cause concurs, because they see that when the secondary cause is brought close, the effect follows and when it is not brought close the effect does not follow...[14]

Experienced correlations of the sort discussed above (Part Four, chapter 18) convince them that (L) is false. (1.1.3) The Saints, on

12. Quoted by Ockham from Scotus in *Ord.* I, d.42, q.u, (OTh IV, 612).
13. *Ibid.*, (OTh IV, 613).
14. *Ibid.*, (OTh IV, 618).

the other hand, reject (L) because they think it anathema to deny secondary causality.[15]

(1.2) If (L) cannot be established, it might seem, that the most helpful provable thesis would be

(N) There is a single being that is *an* efficient cause of every actual producible,

since it would entail

(O) There is a single being that has enough power to act together with others to produce every actual producible.

Unfortunately, Ockham maintains, natural reason cannot prove that there is only one first cause and not many.[16] And even if (N) could be established, there would be further barriers to identifying that being with God. For it cannot be proved by natural reason that heavenly bodies or separate substances are not sufficient efficient causes of generable and corruptible things here below. Hence it cannot be proved by natural reason that God is an immediate efficient cause of any effect.[17] (Hii) is even less provable by natural reason than (Hi).

(1.3) Even if (L) and (N) could be proved by natural reason, they would fall short of the conclusion in (Hi). How could the gap between them be closed? (1.3.1) One way would be to argue that only the actual is possible. Some philosophers insisted that omnipotence or infinite power in the first cause would be superfluous, because the surplus power would never be used.[18] Ockham rejects the latter argument, because it presupposes that God exists for the sake of His effects.[19] And in any event, it was heresy to suppose that the actual exhausts the possible.

15. *Ibid.*, (OTh IV, 617); *Quodl.* II, q.1, (OTh IX, 106–111); *Rep.* II, q.3–4, (OTh V, 60–66, 72).

16. *Quodl.* II, q.1, (OTh IX, 108).

17. *Ibid.*

18. *Ibid.* VII, q.18, (OTh IX, 776); cf. Aquinas, *Summa theologiae* I, q.25, a.2, arg.2.

19. *Quodl.* VII, q.18, (OTh IX, 778).

(1.3.2) Alternatively, one could try to show that the efficient cause mentioned in (L) and (N) is a free and contingent cause that does not act to the limit of its power. (1.3.2.1) Aquinas tried to prove the contingency of the first cause by arguing that it operated by intellect and will. And we have seen in chapter 28, section 4, how Ockham rejects the inference 'The first cause is a voluntary cause; therefore the first cause is a free cause'. (1.3.2.2) Scotus argues from contingency in the effects to contingency in the action of the first cause. For Scotus reasons that if the first cause acts necessarily, every other cause will act necessarily as well. Thus, if some effect is contingent, some cause acts contingently and the first cause likewise acts contingently.[20]

(R1.3.2.2) Ockham thinks Scotus is right to concur with Aristotle that some things—in particular, some human actions—come to pass contingently. Otherwise deliberation would be futile and praise and blame inappropriate. In such cases, however, the created will is at least a partial cause of the action. And Ockham insists that the inference 'The first cause acts necessarily; therefore every other cause acts necessarily' fails where the first cause acts only as a partial cause of the effect. For the created will depends on the first cause, either because the first cause conserves it in existence, or because the first cause produces some influence in it by which it acts, or because the created will cannot produce its act unless the first cause acts together with it. But the necessary action of the created will does not follow the necessary action of the first cause of any of these options. For the created will could act contingently, even if the first cause acted necessarily to conserve it in existence. The second does not apply, because "the will receives no such influence from the first cause, but is its own principle of acting." And even where the created will cannot produce its effect without the action of another—e.g., without a cognition of its object—the natural and necessary action of the other cause does not make the will's action any less contin-

20. *Ord.* I, d.43, q.1, (OTh IV, 629–630); *Rep.* II, q.3–4, (OTh V, 53–56).

gent.[21]

An unobstructible natural cause always acts to the limit of its power. Thus, if it could be proved that the first cause has more power than it exercises, it could be proved that it is not a natural and necessary but a contingent cause. Alternatively, if it could be proved that it is a free and contingent cause, it could be proved that it has more power than it exercises. But while Ockham endorses the first as a probable argument,[22] he maintains "that it cannot be proved by natural reason that God is a contingently acting cause of things."[23] And Ockham concludes that "since it could not be proved by natural reason that God is a contingent cause, it cannot be proved by natural reason that God can cause every producible effect immediately and by Himself alone"[24]—i.e., (H) cannot be proved by natural reason alone.

(1.4) Scotus insisted that natural reason could show that

(P) Some extant being is of intensively infinite power and that being is God,

even if it could not go on to establish (H) or (B). Scotus's principal strategy—of inferring infinite power from some infinity in the effect—is more difficult to implement than at first appears, however. He considers the suggestion that 'God causes a motion of infinite duration' or 'God causes infinitely many effects in succession' be used as premisses,[25] but notes the objection that they could be made true if He were a finite power that continued to exist and act for an infinite duration.[26] Alternatively, it might seem that 'God causes an infinite effect' or 'God simultaneously causes infinitely many effects' would entail (P).

21. *Ord.* I, d.43, q.1, (OTh IV, 632–33); cf. (OTh IV, 635, 638); *Rep.* II, q.3–4, (OTh V, 54–55).

22. *Ibid.*, q.3–4, (OTh V, 55–56); *Ord.* I, d.43, q.1, (OTh IV, 636–37).

23. *Ibid.*, (OTh IV, 636).

24. *Ibid.*, d.42, q.u, (OTh IV, 617).

25. *Ord.* I, d.2, p.1, q.1–2, n.111–12, (Vaticana II, 189–190).

26. *Ibid.*, n.115–16, (Vaticana II, 190–91); cf. Ockham, *Quodl.* II, q.2, (OTh IX, 112–13).

But the former is false because no effect is infinite,[27] and Scotus acknowledges that the latter is false because it is contradictory for infinitely many producibles to exist simultaneously.[28] Scotus contends, however, that so long as the impossibility of infinitely many producibles existing simultaneously lies entirely on the side of the producibles, and not with the power to produce them, the power to produce infinitely many would be an infinite power nonetheless.[29] For an agent that has the possibility of producing many effects is more perfect than one with the possibility of producing fewer; hence, one that has the possibility of producing infinitely many effects will be of infinite power. Ockham replies as before that the latter inference does not hold where the effects are of the same species; for a finite power can produce infinitely many effects of the same species successively. The inference holds only where they are of different species. But it cannot be established by natural reason that the first being can produce infinitely many effects distinct in species.[30] Nor does it follow from the principle that the first cause possesses the causality of the secondary causes in a more eminent way, that the first cause is infinite in power. For natural reason has not shown that the whole hierarchy of causes produces or can produce infinitely many effects. And from the fact that the first cause possesses the causality of the secondary causes, it does not follow that its power is formally infinite, or that the secondary cause does not add to the causal efficacy of the first.[31]

(1.5) Although Ockham thus thinks that divine omnipotence, infinite divine power, and divine freedom are quite beyond the scope of what is provable by natural reason, he insists that such doctrines are not contrary to reason either. Thus, he holds that while (M) cannot be proved true or false,[32] it is defensible and

27. Ockham, *Quodl.* II, q.2, (OTh IX, 113).

28. *Ord.* I, d.2, p.1, q.1–2, n.117, (Vaticana II, 192–93); Ockham, *Quodl.* III, q.1, (OTh IX, 204); II, q.2, (OTh IX, 113).

29. *Ord.* I, d.2, p.1, q.1–2, n.119, (Vaticana II, 194).

30. *Quodl.* VII, q.11, (OTh IX, 742).

31. *Ibid.*, (OTh IX, 742–43).

32. *Ord.* I, d.42, q.1, (OTh IV, 621).

true about God.[33] Likewise, Ockham maintains that although

(Q) God is an immediate partial cause of all actual producibles

cannot be demonstrated by natural reason,[34] it is supported by authorities such as John 1:3, "everything was made through Him"[35] and the creed "I believe in God the Father Almighty, maker of heaven and earth and of everything, visible and invisible."[36] Again, despite his earlier criticism of the superfluity argument,[37] Ockham says that "if He could not be an efficient cause of anything in the universe, He would be posited in vain."[38] Further, according to Ockham, God is first cause by the primacy of perfection and lack of limitation, but His action does not temporally precede that of the secondary causes with which He acts to produce a given effect.[39] From (M) (understood about God) and (Q), one can infer

(R) God is a contingent cause;[40]

strictly speaking, to derive

(S) God is a free cause,

it would be necessary to show that He is not controlled in the exercise of His power by anything else (see chapter 28 above). Finally, Ockham regards the following as a persuasive argument for (P):

(i) For any species, God can make a more perfect species

33. *Ibid.*, (OTh IV, 620–21); *Rep.* II, q.3–4, (OTh V, 60–66, 72).
34. *Ord.* I, d.45, q.1, (OTh IV, 668); *Rep.* II, q.3–4, (OTh V, 60–66, 72–73).
35. *Ibid.*, (OTh V, 61); *Quodl.* III, q.4, (OTh IX, 215).
36. *Ibid.*, (OTh IX, 215).
37. In *Quodl.* VII, q.18, (OTh IX, 778).
38. *Ibid.* II, q.1, (OTh IX, 109).
39. *Ord.* I, d.45, q.1, (OTh IV, 668); *Rep.* II, q.3–4, (OTh V, 62–63).
40. *Ibid.*, (OTh V, 55).

than it.

(ii) There will be a limit to the perfection of species producible by a finite power.

(iii) Therefore, God is of infinite power,[41]

although he is noncommittal regarding the truth of (i) in *Ordinatio* I, d.44, q.u,[42] and has implied in *Quodlibeta* VII, q.11,[43] that natural reason cannot prove it.

## 2. IS OCKHAM GUILTY OF THEOLOGISM?

Why would a philosopher as clever as Ockham appeal to propositions such as (A)–(D) to establish philosophical conclusions, when he thought that we could not know by natural reason alone that God is omnipotent and free and so could not know such assertions to be true?

(2.1) *It Is Just "A Manner of Speaking."* One explanation is that when Ockham remarks that such and such is possible by divine power, this is only a way of saying that it is logically possible. After all, the medieval Christians with whom he was debating all agreed upon divine omnipotence. To Gilson's complaint, he might have replied, "Which is easier to say? that it is logically possible? or that God can do it? But that we may reaffirm what we all believe, I say that God can do it." The difference in what is asserted by 'It is logically possible that *p*' and 'God can bring it about that *p*' is not one that would have been controversial among Ockham's Christian listeners. And they would easily have understood from the context that only the former was required by his argument.

Certainly, in many passages, Ockham's reference to divine power seems merely to be a convenient way of appealing to the

41. *Quodl.* VII, q.18, (OTh IX, 774–75).
42. (OTh IV, 652–53).
43. (OTh IX, 742).

maximally flexible standard of possibility.[44] And he sometimes uses a premiss of the form 'God can bring it about that *p*' when one of the form 'It is logically possible that *p*' would have sufficed.[45] And the above reasoning may account for Ockham's assertions in some such passages; at least, I would not know how to prove that it does not. Nevertheless, it cannot provide a complete reply to Gilson's charge of theologism. For Ockham sometimes infers a proposition of the form 'It is logically possible that *p*' from one of the form 'God has the power to bring it about that *p*' and vice versa (see section (2.4.2) below). If the latter were simply a way of asserting the former, such inferences would be uncharacteristically redundant.

(2.2) *Ockham Intends to Analyze Logical Possibility in Terms of Divine Power.* Alternatively, one might say that Ockham thought the notion of logical possibility was to be analyzed in terms of divine power. True, he thinks it cannot be proved that God is omnipotent, but that it is an article of faith (see the above quotations from *Quodlibeta* VI, q.6 and IV, q.22). When he says this, however, he is focussing on (H), and is claiming that natural reason cannot show that the first conserving cause, whose existence it does establish,[46] to be omnipotent. It is one thing that (H) some extant being is omnipotent and is God; another to arrive at

(G) Necessarily, for any *x*, if *x* is God, *x* is omnipotent,

after a partial analysis of the concept of God. Even if Ockham thought that (H) could not be proved, he might have felt entitled to (G) and legitimately have thought that he had certifiable intuitions about what would fall within the scope of divine power. Perhaps it is such claims as these that he regards as the analysans

44. This is especially plausible as an interpretation, when Ockham says that something is possible *at least* by divine power. See *Ord.* I, d.2, q.6, (OTh II, 179); (OTh II, 180); (OTh II, 182); q.7, (OTh II, 249–250); q.9, (OTh II, 308); d.3, q.2, (OTh II, 411).

45. For example, *Quodl.* VI, q.1, q.6, q.8, q.9, q.12; VII, q.3, q.6, q.19; IV, q.23.

46. *Ord.* I, d.2, q.10, (OTh II, 355–56); see chapter 22 above.

of statements of logical possibility; that is,

(T) 'It is logically possible that $p$' = df. 'If an omnipotent God existed, He would have the power to bring it about that $p$'

so that in the above mentioned inferences, he intends to be inferring statements on the left-hand side from statements on the right-hand side. And he will not be involved in proving philosophical theses from unproved theological claims.

This hypothesis meets with numerous difficulties, chief of which is that Ockham turns down an opportunity to analyze or reduce the possibility of creatures to their inclusion within the scope of divine power. Rather he insists that while divine power is the originative source of the real existence of creatures, "being possible is something that pertains to a creature *of itself*."[47]

(2.3) *Ockham's Primary Intuitions about Possibility Are Causal.* While acknowledging this textual data, Calvin Normore cites other evidence that makes it seem possible and important to preserve the main thrust of this second hypothesis. For in the *Summa logicae* III-3, c.49, Ockham admits that a proposition may entail contradictories even though none can be derived from it by an evident inference or inferences (for example, 'The Holy Spirit does not proceed from the Son' and 'It is not the case that if God exists, God is three and one'). If so, however, Ockham is not in a position to give a syntactical account of contradiction. And if the logically possible is what is free from contradiction, he is not entitled to a syntactical account of what is logically possible either. Thus, if he is unwilling to analyze logical possibility in divine power, he cannot analyze it syntactically either.

These last considerations are relevant, Normore thinks, not only to what analysis Ockham could offer, but also to where his fundamental intuitions about logical possibility must lie. For if 'The Holy Spirit does not proceed from the Son' entails con-

47. *Ibid.*, d.43, q.2, (OTh IV, 649–650); see chapter 25 above.

tradictories but cannot be shown to do so by an evident inference, then Ockham's *intuitions* about what is logically possible are not *uniformly* syntactical. From this, Normore appears to infer that probably they are uniformly or primarily causal. Since for Ockham God is the first and the most powerful cause in the universe, probably his fundamental intuitions about logical possibility are intuitions about divine power.[48]

If successful, this reasoning would explain Ockham's repeated references to divine power in his philosophical discussions. It is less clear that it would absolve him of Gilson's charge of theologism. We may distinguish here between *propositional theologism*, which is inferring philosophical conclusions from theological premisses that cannot be known by natural reason alone, and *conceptual theologism*, where philosophical notions are analyzed in terms of theological ones, or where theological intuitions are the source of philosophical notions. Perhaps Gilson would regard both as equally pernicious.

In any event, Normore's argument may be questioned at several points. (a) First, Ockham's admission—that 'The Holy Spirit does not proceed from the Father and the Son' and 'It is not the case that if God exists, He is three in one' entail contradictories but cannot be shown by an evident inference to do so—does prevent him from giving one kind of syntactical *analysis* of the notion of contradiction.[49] But it may be doubted whether his remarks about such theological propositions show anything about *Ockham's* intuitions regarding logical possibility. After all, he doubtless thought that there were three sources of information about what is logically possible: reason, experience, and authority. The second is a source because *ab esse ad posse valet consequentia*. Intuition clearly plays a role in

48. Calvin Normore, *The Logic of Time and Modality in the Later Middle Ages: The Contribution of William Ockham*, chap.7.

49. Elizabeth Karger, in *A Study in William of Ockham's Modal Logic* points out that it does not clearly prevent him from giving any and every syntactical analysis. For if the class of evident inferences is unduly narrow, the analysis of '$p$ is contradictory' in terms of '$q$ and $-q$ can be derived from $p$ by an evident inference' may not be the only plausible one.

the first. But Ockham's assertion that the above mentioned propositions entail contradictories rests on authority. Since Ockham has declared the doctrine of the Trinity to be "beyond understanding",[50] we cannot expect its tenets to reflect his own personal intuitions. Thus, Ockham's own intuitions about logical possibility could be uniformly syntactical, even if authority forces him to grant counter-intuitive claims.

(b) In favor of the view that Ockham's intuitions about logical possibility were *sometimes* syntactical and not always primarily intuitions about divine power, are the passages in which freedom from *evident* contradiction is taken as a criterion of what lies within the scope of God's power. Thus, in the Prologue to the *Ordinatio*, q.1, he reasons that

> ...for any absolute thing [*a*] really distinct from another absolute thing [*b*], it should not be denied that [*a*] could be produced without [*b*] by absolute divine power *unless there appears to be some evident contradiction in this*. But there does not appear to be any evident contradiction in the judgment which follows an apprehension existing and yet the apprehension not existing; nor in the apprehension of a complex existing and yet the noncomplex cognition of the terms not existing. Therefore, etc.[51]

And in the above passage from *Quodlibeta* VI, q.6, where Ockham's theologism is supposed to be so blatant, Ockham uses the syntactical philosophical criterion of what is free from an obvious contradiction to infer from the article of faith, viz., that God is omnipotent, the conclusion that God can produce an intuitive cognition of something nonexistent. But if *F* is a criterion for *G*, then *F* is epistemologically prior to *G* and *G* is not epistemologically fundamental. Here in these passages at least, Ockham does not treat his intuitions about the scope of divine power as the most basic ones.

(2.4) Perhaps the best gauge of Ockham's involvement in either conceptual or propositional theologism remains the direction in which his inferences move. If he typically infers

50. *Ord.* I, d.2, q.6, (OTh II, 175).
51. (OTh I, 58–59), (italics mine).

claims about what God can do from philosophical remarks about what is logically possible, then it seems that the philosophical intuition and premiss are fundamental; if the other way around, then the theological notion takes precedence and he is guilty of propositional theologism as well. Do the texts reveal any clear pattern in Ockham's reasoning? The answer is that they do not.

(2.4.1) The most promising evidence for the prosecution is Ockham's repeated use of (B), a thesis which—as he says in *Quodlibeta* VI, q.1—the theologians infer from

(U) An omnipotent God has the power to bring about anything His bringing about of which does not involve a contradiction,

and whose denial they anathematized in the condemnations of 1277 and thereafter. For, as noted above, he uses it in metaphysics to prove that neither efficient causality,[52] action,[53] nor quantity[54] is really distinct from substances and qualities. Likewise, he uses it to argue that God can cause an abstractive cognition of the deity and other things without a prior intuitive cognition[55] or an intuitive cognition of a nonexistent object;[56] and that God can conserve a vision when its object no longer exists[57] or an activity in the will without any action of the will.[58] And from the latter theological claims follow some central claims of Ockham's epistemology and psychology.

(2.4.2) In a few passages, Ockham infers propositions of the form 'It is logically possible that *p*' from propositions of the form 'God has the power to bring it about that *p*'. For example, in *Ordinatio* I, d.17, q.2, Ockham reasons that since the will has

52. *Quodl.* VI, q.12.
53. *Quodl.* VII, q.3.
54. *Quodl.* IV, q.25.
55. *Ord.*, Prologue, q.1, (OTh I, 72).
56. *Ord.*, Prologue, q.11, (OTh I, 313); d.1, q.3, (OTh I, 417); *Quodl.* VI, q.6, (OTh IX, 604).
57. *Quodl.* V, q.5, (OTh IX, 498).
58. *Ord.*, Prologue, q.10, (OTh I, 294).

the power to elicit a demeritorious act of itself, it is possible with respect to God's absolute power that the will elicit a meritorious act of itself; and concludes that, therefore, no contradiction is involved in its so doing.[59] Again, from the fact that God can miraculously suspend the activity of a volition with respect to pleasure (*delectatio*), he infers that the volition can exist without the pleasure and hence that they are really distinct.[60] Again, from the fact that with respect to His absolute power God can conserve Socrates and destroy a given relation, he infers that no contradiction is involved in God's so doing.[61] Further, he argues that since God could make and move a body without there being any such putative entity as place (*ubi*), that the body could move without any such entity and hence that such an entity is superfluous;[62] similarly, that since God can conserve a body extended without any quantitative mode or real relation, the body can be extended without any such mode or relation and hence that the latter are superfluous.[63] In all but the first of these passages, Ockham infers a philosophical conclusion with the aid of a premiss about divine power and so seems guilty of propositional theologism. And the fact that the inferences move in this direction suggests that the intuitions about divine power are fundamental here.

This evidence is countered, however, by a larger number of passages in which Ockham infers propositions of the form 'God has the power to bring it about that *p*' from the fact that '*p*' or 'bringing about *p*' or 'God's bringing about *p*' is not contradictory. For example, no contradiction is involved in a form's being expelled without its contrary being introduced,[64] in an impressed character's being destroyed and its subject being conserved,[65] in a sinner's existing in a purely natural state,[66] in a

59. (OTh III, 469–470).
60. *Rep.* IV, q.16, (OTh VII, 342–43).
61. *Quodl.* VII, q.5, (OTh IX, 718–19).
62. *Ibid.*, q.6, (OTh IX, 722).
63. *Ibid.*, q.19, (OTh IX, 780–81).
64. *Rep.* IV, q.3–5, (OTh VII, 43).
65. *Ibid.*, q.2, (OTh VII, 32–33).
66. *Quodl.* VI, q.4.

demonstration's existing in the soul without an act of knowing,[67] in one absolute thing's existing without another,[68] in a sinner's being made innocent without grace,[69] in God's making a quality of charity equal in degree to Christ's charity and adding it to Christ's charity,[70] in God's not giving the beatific vision when He gives grace,[71] or in God's destroying a relation and not destroying the location of the body;[72] therefore, God has the power to bring each of these about. On the other hand, it is impossible for contradictories to be true in an instant,[73] for contraries to inhere in the same subject simultaneously,[74] for a true proposition about the past to be false,[75] for a line to be composed of points,[76] or for infinitely many distinct things that do not combine to make something one *per se* to exist at once;[77] therefore God cannot bring any of them about. Ockham will see all such inferences as enthymemes that proceed on the assumption of the article of faith—that God is omnipotent, in that He is able to bring about everything His bringing about of which does not involve (an evident) contradiction. Insofar as they go in this direction, these inferences undermine a charge of either propositional or conceptual theologism.

(2.4.3) Gilson and others see the effect of Ockham's theologism on his metaphysics and epistemology as epitomized in his inference of (E) and (F) from (A). Does Ockham actually reason this way? The answer is "yes" and "no," as can be shown from a partial survey of texts featuring his more limited theses.

His use of (D) 'Every absolute thing distinct in place and sub-

67. *Quodl.* V, q.6.
68. *Rep.* IV, q.3–5, (OTh VII, 48).
69. *Quodl.* VI, q.4, (OTh IX, 596–98).
70. *Ord.* I, d.17, q.8, (OTh III, 567).
71. *Quodl.* VI, q.4, (OTh IX, 597).
72. *Ibid.* VII, q.6, (OTh IX, 722).
73. *Ibid.* IV, q.10, (OTh IX, 346–47).
74. *Rep.* IV, q.10–11, (OTh VII, 204).
75. *Quodl.* VII, q.5, (OTh IX, 718–19).
76. *Quodl.* I, q.9, (OTh IX, 58).
77. *Ibid.* II, q.9, (OTh IX, 154–55).

ject from another absolute thing can, by absolute divine power, exist without it' seems to conform to Gilson's expectations. For it is applied without comment to prove the possibility of intuitive cognitions of nonexistents[78] and to show that neither equality[79] nor filiation[80] is a thing really distinct from absolute things.

Turning to 'Everything prior to and really distinct from another can exist without it', Ockham does reason in *Quodlibeta* VI, q.9 that since (C) God can make the prior without the posterior,therefore the prior can exist without the posterior.[81] And in *Quodlibeta* VI, q.8, he uses the theological premiss to defend his metaphysical thesis that similarity is not a thing really distinct from absolute things:

> God can make any prior absolute thing without any posterior thing; therefore He can make two absolute white things without any posterior similarity and yet they will be similar. Therefore, similarity is no such intermediate thing.[82]

Likewise, in *Quodlibeta* IV, q.21, he uses the principle that whatever does not depend on another can, by divine power, be conserved without it, to prove that there is no such thing as a relation of presence.[83]

Nevertheless, the proof goes in the opposite direction in *Quodlibeta* IV, q.32, where Ockham asks whether God could make any prior absolute thing when everything posterior to it has been destroyed. For he defends his affirmative answer with the philosophical observations that "no contradiction is involved in an absolute thing's existing without anything else that is neither part nor an essential cause of it. But the naturally posterior is neither part nor an essential cause of the naturally prior."[84]

78. *Ord.*, Prologue, q.1, (OTh I, 38); cf. *Quodl.* VI, q.6, (OTh IX, 605).
79. *Ibid.*, q.9, (OTh IX, 620).
80. *Ibid.*, IV, q.11, (OTh IX, 349).
81. (OTh IX, 619).
82. (OTh IX, 619).
83. (OTh IX, 401–402).
84. (OTh IX, 456).

When we are dealing with different instantiations of 'God has the power to bring it about that *p*' and 'It is logically possible that *p*', we should not be surprised if Ockham sometimes finds his philosophical intuitions stronger than his theological ones and sometimes the other way around. But here it is a matter of the same two general theses—'God can produce or conserve the prior without the posterior' and 'It is logically possible that the prior exist without the posterior'—and we find Ockham sometimes proving the former from the latter, sometimes vice versa!

(2.5) *Gilson's Complaint Is Anachronistic.* Perhaps it will be said that Gilson's concern to preserve philosophy as a system of truths knowable by natural reason alone is as anachronistic as his Cartesian standard of certainty. Ockham is a philosophical theologian. Most of these discussions occur in theological works (either in his commentary on the *Sentences* or in his *Quodlibetal* questions). The job of a philosophical theologian is to put his philosophical and his theological intuitions together to form a coherent whole. That is why we find Ockham sometimes drawing on his theological intuitions and using a premiss about what God can do and other times on his philosophical intuitions and using a premiss about what is free from evident contradiction. Further, as we have seen in chapter 25, even if Ockham does not think that logical possibility is analyzed in terms of divine power, he does think—for a wide range of substitutions for '*p*'—'It is logically possible that *p*' and 'God has the power to bring it about that *p*' are logically equivalent. Thus, it should not be surprising if he sometimes advances the one and sometimes the other.

Unfortunately, this reply cannot fully exonerate Ockham. He was scarcely blind to the distinction between truths knowable by natural reason alone and those given only with the aid of revelation. On the contrary, even in his theological works, he argues at length that traditional proofs of the existence and unity of God (chapter 22), of God's knowledge (chapter 23), and of His omnipotence (section 1 above) would not convince an infidel, resting as they do on the premisses that cannot be supported by natural reason alone. Ockham seems as interested in

the distinction as Gilson is; it is just that the former is less optimistic about the prospects for natural theology than the latter. Further, so far from explaining the textual picture, Ockham's belief in the logical equivalence of 'it is logically possible that $p$' and 'God has the power to bring it about that $p$' (for a wide range of substitutions for $p$) makes his inferences of the latter from the former and the former from the latter, more problematic. For if they are logically equivalent, the inference of one from the other will be redundant and so will not serve as a proof.

(2.6) *Conclusion.* In conclusion, it seems that although Ockham would have recognized Gilson's complaint, he was not very concerned to steer clear of it. So far as conceptual theologism is concerned, Ockham declines to analyze logical possibility in terms of divine power. If it is asked further whether Ockham's intuitions about logical possibility are uniformly syntactical or causal or theological, however, the answer is that they do not appear to be *uniformly* anything. Sometimes the operative intuitions are theological; but Ockham frequently uses freedom from evident contradiction as a criterion for what falls within the scope of divine power. As for propositional theologism, Ockham does use theological theses that cannot be proved by natural reason alone, as premisses from which to draw philosophical conclusions, although these tenets could often be defended without them by appealing to philosophical claims about what is logically possible. On the other hand, he frequently uses philosophical premisses about what is logically possible to draw conclusions about what God can do. In short, the textual picture is chaotic, and there is no obvious strategy for explaining it away.

# 30

# Grace, Merit, and the Freedom of God

Medieval theologians asked whether God could do otherwise than He does. On the one hand, an affirmative answer seemed required. For Christians wanted to insist against the Greeks and Arabs that

(T1) God alone exists necessarily and everything else exists by His free and contingent volition.

God is free in relation to His creation. Had He so chosen, there would have been nothing other than Himself. And the world would have been quite different had He made a different decision. Insofar as God is sovereign over His creation, surely He can do otherwise then He does with respect to it.

On the other hand, if one focuses on certain essential attributes of God—His goodness, His wisdom, His immutability—one finds reason to say the opposite. Abelard argued that God's goodness and justice would necessarily lead Him to do whatever it would be good and just for Him to do; likewise His wisdom would necessarily lead Him to do whatever was most reasonable. If He did otherwise than He does, He would act contrary to His nature—which is impossible. Likewise, God is essentially immutable, and has decided from eternity whatever He has decided. It is not now within His power to change His mind, and so He is not able to do otherwise then He does. Hugh of St. Victor and Peter Lombard rose in vigorous defense of (T1) and the claim that God can do otherwise than He does, and most commentators were forced by the weight of authority to agree. Curiously, Ockham and his companions found a revival of Abelard's position in John XXII's rejection of the theologians'

distinction between absolute and ordered power.[1]

The same sort of dilemma arises in the order of salvation. Before examining it, however, we must briefly note some points of medieval theological usage. First, medieval theologians agreed that 'This person is predestinate' entails 'God will give eternal life to this person on the Day of Judgment', while 'This person is reprobate' entails 'God will give this person eternal punishment on the Day of Judgment'. The conditions of divine acceptance and mortal sin were conceived of as states of prima facie predestination and reprobation, respectively. Thus, if a person is accepted by God, God is so pleased with him and/or the way he is that if he stays that way or is that way when he dies, God will give him eternal life. But if a person is in a state of mortal sin, God is so displeased with him that if he stays that way or is that way when he dies, God will give him eternal punishment. A meritorious act is a free act accepted by God as prima facie worthy of eternal life, while a mortal sin is a free act regarded by God as prima facie worthy of eternal damnation.

It seems that if God is free and sovereign, He should be able to accept or predestine (reject or reprobate) whomever He wants. Yet, if God is wise and reasonable, He will not accept some and not others, or first accept and then reject anyone without sufficient cause. Likewise, for predestination and reprobation. Can any basis be assigned which will preserve God's freedom and sovereignty together with His wisdom and rationality?

Attempts to answer this question in the affirmative spawned yet another difficulty. Surely what God most cares about in His rational creatures is their obedience to Him. In the fourth century, Pelagius had contended that the purely natural endowments of reason and free choice, together with God's revelation of the ten commandments, put them in a position to do just that: not only to perform a single righteous action, but also to obey God completely throughout their lives and thereby merit eternal life. In a series of increasingly polemical works,

1. *Opus nonaginta dierum*, c.95, (OP II, 718–729).

Augustine countered that Pelagius allotted God's grace much too small a role in the process of salvation. By the end of his life, Augustine was maintaining that one could neither have faith nor perform any righteous action, much less persevere in obedience until death, without divine grace. Regarding the question of predestination, theologians debated whether God decided whom to predestine on the basis of their foreseen good use of free will, which seemed to lead in a Pelagian or semi-Pelagian direction; or whether God first determines who shall receive grace and thereby do good works, and then rewards and punishes accordingly, which seemed to raise the question of how God's choice can be reasonable, wise, or good. Thus, a trilemma is posed of how to reconcile either God's freedom and sovereignty or His wisdom and goodness with each other and with created free choice. For either acceptance and salvation depend on created free choices, in which case God does not receive enough credit for or retain enough control over the outcome; or right action and final perseverance depend on a prior bestowal of divine grace, in which case created freedom is called into question, and the suspicion of arbitrariness in God's distribution of grace raises its head; or God simply chooses whom to accept or predestine and whom to reject or reprobate without any reason, in which case His wisdom and goodness seem to be forfeited.

Controversy in the late thirteenth and early fourteenth centuries focused on two questions: (1) can a creature be accepted by God or any of its acts be meritorious apart from a supernatural infusion of divine grace or charity? (2) Is predestination (reprobation) based on foreseen good (bad) use of free will, or does God's decision of whether or not to predestine and give grace determine the good or bad use of free will? The authority of Augustine created considerable pressure to endorse the necessity and priority of grace. On the other hand, when certain interpretations were given to the Augustinian theses, they themselves appeared to threaten divine freedom. A tradition of denying the absolute necessity of grace for salvation was inaugurated by Duns Scotus, who was in turn attacked by Peter Aureol. Ockham's own development of Scotus's thesis brought

him a charge of Pelagianism from John Lutterell and Walter Chatton. Since a full survey of this fascinating debate has been undertaken by others,[2] I shall restrict my attention in this chapter to Ockham's own battles about grace and merit; the controversy about predestination will be reserved for the next.

## 1. GRACE AS INSURING DIVINE WISDOM AND GOODNESS

When Augustine insisted that no human act was righteous and no human being saved except by divine grace, he was motivated by a desire to maximize God's role in the redemptive process and thereby preserve divine freedom and sovereignty over it. By Ockham's time, however, theologians were insisting on the necessity and sufficiency of grace as the guarantee of divine wisdom and goodness. Ockham's explicit target, Peter Aureol, reasoned thus: doctrine requires us to hold that God accepts some people and not others, and that most persons pass into and out of divine acceptance in the course of their lives. But God is the most reasonable of lovers, and so would not first love and then not love someone without any change. Since God is immutable, the change must be in creatures and the most reasonable place for it to occur is in the beloved or rejected creature himself. Aureol thus concludes that

> some such created and absolute form is necessarily required for the soul to be graced, dear to, and accepted by God, in such a way that with respect to God's absolute power, he cannot be dear to God without such a form. And the form itself is necessarily dear to God and likewise the soul informed by it, in such a way that given that form, it cannot not be dear to God with respect to God's absolute power...[3]

That is,

2. Werner Dettloff, *Die Entwicklung der Akzeptations- und Verdienstlehre von Duns Scotus bis Luther*, in *Beiträge zur Geschichte der Philosophie und Theologie des Mittelalters*, 40:2, 1963.

3. *Ord.* I, d.17, q.1, (OTh III, 441); cf. (OTh III, 441–44), and *Quaest. variae*, q.1, (OTh VIII, 3).

(T2) There is some quality $Q$, such that '$x$ has $Q$ and God does not accept $x$ as worthy of eternal life' and '$x$ dies having $Q$ and God will not give $x$ eternal life' are contradictory,

and

(T3) There is some quality $Q$, such that 'God accepts $x$ as worthy of eternal life and $x$ lacks $Q$' and 'God will give eternal life to $x$ and $x$ lacked $Q$ at death' are contradictory.

Aureol identified this quality with infused charity or an infused habitual love of God above all things (which was regarded as one kind of grace), and concluded that it is the acquiring and losing of this quality that makes a creature first acceptable and then unacceptable to God. Further, just as a creature will not count as worthy of divine acceptance unless such charity inheres in him, so neither will any of his free choices count as meritorious. Thus,

(T4) There is a quality $Q$, such that '$x$ lacks $Q$ and $x$ performs a meritorious act' is contradictory.[4]

Likewise, many maintained that

(T5) There is some quality $Q$ or privation of some quality such that '$x$ has $Q$ or is subject to this privation and God accepts $x$ for eternal life' and '$x$ had $Q$ or is subject to this privation at death and God does not give eternal punishment to $x$' are contradictory.

Thus, Aureol holds that sin is something that by its very nature (*ex natura rei*) is hateful to or detestable by God.[5] If (T3) makes

4. Endorsed by Aquinas, *Summa theologiae* I–II, q.109, a.5; discussed by Ockham in *Ord.* I, d.17, q.2, (OTh III, 468–471).

5. Quoted by Ockham from *In I Sent.*, d.17, q.2, in *Ord.* I, d.17, q.1, (OTh III, 442).

the having of some quality $Q$ necessary for divine acceptance and eternal life, it follows that the privation of $Q$ will be sufficient to exclude one from them. Thus, anyone who accepts (T3) is thereby committed to (T5). Others may have thought that original sin, actual mortal sin, and/or guilt were, or were necessarily connected with, other privations or even with some positive quality that satisfied the conditions laid down in (T5). Since (T2)–(T5) make the possession or non-possession of such qualities logically sufficient grounds for reward and punishment, they make God's activity in rewarding and punishing maximally reasonable and seem to preserve Him from the charge of injustice. At the same time, adherents of these theses hoped to avoid the snares of Pelagianism by insisting that

(T6) The quality or qualities that satisfy (T2) and (T3) are not naturally producible but supernaturally infused by God.[6]

According to the Church's teaching, the sacraments are the means of grace. And many medieval theologians held in particular that

(T7) The sacraments of the New Law differ from those of the Old Law in that the former but not the latter "effect what they figure" and hence are somehow efficient causes of infused grace.[7]

Thus, all human beings after the fall are born in original sin,

6. Aureol, *In I Sent.*, d.17, q.2, quoted by Ockham, *Ord.* I, d.17, q.1, (OTh III, 445).

7. Ockham summarizes this position at *Reportatio* IV, q.10–11, (OTh VII, 193). Aquinas maintains that the sacraments of the New Law are instrumental efficient causes of grace, where God Himself is the principal agent (*Summa theologiae* III, q.62, a.1; cf. a.6). Scotus criticizes Aquinas's opinion on a number of counts, but holds that a sacrament has a certain natural action through which it signifies the effect of grace on the soul and is willing to call such signification an "instrumental action" reducible to the genus of efficient causality (*Rep.* IV, d.1, q.4, n.8, 11, (Wadding XI, 569)).

which is to say that they are subject to some quality or privation that satisfies the conditions specified in (T5). And subsequent actual mortal sins leave one subject to guilt that likewise satisfies (T5).[8] By the law of noncontradiction, no person can simultaneously receive and not receive eternal life. And since the same subject cannot receive contraries simultaneously, none can have both eternal life and eternal punishment. Hence, if the above mentioned qualities or privations satisfy (T5) and infused charity or grace satisfies (T2), then it follows that grace is, by its very nature, formally incompatible with original sin and guilt, so that the former expels the latter and guilt expels grace.[9] Accordingly, Aureol compares their opposition to that of whiteness and blackness.[10] Baptism is an efficient cause of infused grace that drives out the quality or privation associated with original sin,[11] while interior and exterior acts of penance are efficient causes of infused grace that drive out the guilt left by mortal sin.[12] When grace has been infused into a person, it remains there until he sins; and if he dies in a state of grace, he receives eternal life (by (T2)). If he commits a mortal sin, however, the quality of grace is corrupted and replaced by a quality or privation that makes him prima facie liable to eternal punishment. Thus, since no one can be made worthy of eternal life or perform any meritorious act without grace, and since grace is introduced by the sacraments, the sacraments are necessary for salvation.

## 2. SUPERNATURALLY INFUSED GRACE AND DIVINE ARBITRARINESS

Whatever may be said about the details of this position, it

8. Cf. Ockham, *Rep.* IV, q.10–11, (OTh VII, 206).
9. Cf. Ockham, *ibid.*, q.3–5, (OTh VII, 43–44).
10. *In I Sent.*, d.17, a.2, quoted by Ockham in *Ord.* I, d.17, q.1, (OTh III, 442).
11. Endorsed by Aquinas, *Summa theologiae* III, q.69, a.1, 2, 4.
12. Cf. Aquinas, *ibid.*, q.87.

may seem obvious to us that its strategy for defending divine wisdom and goodness (in (T2)–(T5)) is defeated by its move to steer clear of Pelagianism in (T6). For if inherent charity or grace is necessary and sufficient for divine acceptance and necessary for the performance of any meritorious act, and yet this quality cannot be naturally produced but only supernaturally infused, we must ask what criterion God used in deciding on whom to confer and from whom to withhold such grace. To distribute effects of such momentous consequence at random would seem irresponsible and unjust. If He relies on foreseen created free choices, then Pelagianism is not really avoided. Yet, if He is good and just, how can He base this decision on anything else.

Ockham denies that there is any difficulty in defending God's goodness here. The illusion that there is, rests on the false assumption that divine goodness and justice require Him to do one thing rather than another. For, by definition, "no one is said to sin or act viciously, unless because he does the opposite of what he is obliged to do."[13] Yet, Ockham contends, God's sovereignty over creation consists not only in the fact that its existence depends on His free and contingent volition, but also in the fact that

(T8) God is a debtor to no one.[14]

Hence, "God is not obliged to perform any act. Therefore, by the fact that God wills something, it is justly done..."[15] Thus, even if God treated like cases differently—as Ockham suggests He does with Jacob and Esau[16]—He would not act unjustly, because He would not thereby fail to live up to any of His obligations. Likewise, contrary to Aureol, God would not act unjustly if He failed to return the love of someone who

13. *Rep.* IV, q.10–11, (OTh VII, 225–26).
14. E.g., *Quaest. variae*, q.1, (OTh VIII).
15. *Rep.* IV, q.10–11, (OTh VII, 198); cf. (OTh VII, 225–26); q.3–5, (OTh VII, 55).
16. *Quaest. variae*, q.1, (OTh VIII, 22).

loved Him above everything, because God is not obliged to reciprocate such love even if it is natural to do so.[17] Again, Ockham insists,

> God is a debtor to no one unless He has so ordained it. With respect to His absolute power, He can punish a creature without any demerit and reward a creature without merit, without any injury to the person...[18]

—i.e., He can do so without violating the person's rights. In the same way, "if someone were to love God and do all the works accepted by God, God could annihilate him without any injury" and likewise "after such deeds He can give him, not eternal life, but eternal punishment without injury."[19] After all, "Christ never sinned, and yet He received the severest punishment—even death."[20]

Even if we granted Ockham's assumption that God could not be accused of injustice no matter what He did, that would not acquit Him of all charges of arbitrariness against His wisdom. If it was not unjust of Him to love Jacob and hate Esau, was it not arbitrary all the same? Ockham would reply as follows: Since (T8) God is a debtor to no one, the claim that God is wise does not imply that His choices measure up to some standards of moral appropriateness independent of His will, but rather that He is rational in pursuing His purposes, skilled in selecting the means to His chosen ends. Whether or not it is rational for Him to treat like cases alike thus depends on whether or not this suits His purpose. Thus, while His election of Jacob and rejection of Esau may be arbitrary, this fact does not prevent it from being a manifestation of divine wisdom. In fact, Ockham does not believe that God's activity in accepting and rejecting, predestining and reprobating need serve any further end at all. He could simply want to accept these and reject those. Thus, arbitrary action on God's part is not necessarily foolish.

17. *Ibid.*, (OTh VIII, 26).
18. *Rep.* IV, q.3–5, (OTh VII, 55).
19. *Ibid.*
20. *Ibid.*

## 3. OCKHAM'S CRITIQUE OF AUREOL ET AL

Ockham locates the insidious element in Aureol's position, not in (T6), but rather in (T2)–(T5); f r the latter insure the rationality of God's activity by severely compromising His freedom and sovereignty. Ockham insists that "just as (T1) God created any creature by His will alone, He can do whatever He pleases in relation to a creature."[21] Consequently,

(T9) No creature is such that it is necessarily or instrinsically acceptable (unacceptable) to God; none such that it is necessarily or intrinsically worthy of eternal life (eternal punishment).[22]

Ockham's elaboration and defense of this counter-thesis divides into three parts: arguments showing that no created form is logically sufficient for divine acceptance or merit; those that none is logically necessary; and some that of all of the creatures eligible for this role, Aureol's choice of an infused habit is particularly unfortunate. Behind the first two, is the common opinion that for a creature to have eternal life is for him to exist eternally and have eternally inhering in him a mental quality which is the beatific act; whereas for a person to suffer eternal punishment is for him to exist eternally and eternally have other qualities associated with pain and suffering inhering in him. Thus, what (T2)–(T4) assert is that there is a logically necessary connection between a creature's existing now or in the past together with a certain inherent quality and its eternal existence and the internal inherence of a different quality. And (T5) maintains a logically necessary connection between the past or present existence of someone subject to a certain quality or priva-

21. *Ibid.*

22. Asserted regarding acceptance or worthiness of eternal life: *Ord.* I, d.17, q.1, (OTh III, 446, 449, 452, 454–55); q.2, (OTh III, 471–72); *Quaest. variae*, q.1, (OTh VIII, 26); *Rep.* IV, q.3–5, (OTh VII, 55). Regarding God's hating a creature: *Ord.* I, d.17, q.1, (OTh III, 447, 449). Regarding a deed or person being worthy of eternal punishment: *Rep.* IV, q.3–5, (OTh VII, 55).

tion and the eternal existence of that person eternally subject to other qualities and privations. Ockham thinks that there are no such logically necessary connections, and sets out to sustain (T9) by appealing to a number of other theses.

(3.1) *No Created Form Is Logically Sufficient.* Most fundamentally, Ockham maintains that

(T10) There is no possible created form *F*-ness for which 'if *F*-ness inheres in $x$, God will not annihilate $x$ in the future' is logically necessary.

For "whatever God created contingently, He can annihilate whenever He wants to."[23] This latter remark may rest on Ockham's thesis that

(T11) Whatever is produced in existence must be conserved in existence so long as it continues to exist.

If it does not pertain to a thing to exist of itself, it will not pertain to a thing to remain in existence of itself. So where creatures are concerned, there will be nothing about the creature itself that makes it necessary for it to continue in existence if it exists at all. But by (T1), God's activity in relation to creatures is not necessary but free and contingent. The only difference between creating $x$ and conserving $x$ is that '$x$ is created' implies '$x$ exists for the first time' while '$x$ is conserved' implies '$x$ existed before'. Consequently, there is nothing about divine action in relation to creatures that would make it necessary for God to conserve any creature in existence forever once He produced it in the first place. It follows that God can annihilate any created soul whenever He wants to, no matter what created form or privation it was subject to. But if He can annihilate a soul that is or was infused by charity or subject to sin and guilt, a fortiori, He can refuse to give it eternal

23. *Ord.* I, d.17, q.1, (OTh III, 453–54).

life[24] or eternal punishment [25] in the future.

Again, Ockham contends that

(T12) There are no possible qualities $Q$ and $Q'$ for which 'if God conserves $Q$ in $x$, God will produce $Q'$ in $x$' is logically necessary.

For one thing, Ockham argues, if the one quality can be conserved in the subject for some time without the production of the other in it, then the former can be conserved without the latter forever. Perhaps Ockham infers this from the common assumption of medieval science that

(T13) Barring some impediment, a natural cause acts to the limit of its power.

But an infused habit of grace or charity is a natural cause. Hence, if it had the power by itself to produce or to force God to produce a beatific act in the subject, it would do so at the first instant of its existence. If it does not do so over a period of mutual coexistence, there is no reason in medieval science to suppose that it ever could.[26]

Again, if (T12) were false, "it would follow that a creature could make it necessary for God to produce something in the future."[27] For Ockham this was an acceptable infringement of divine power. In fact, he observes, our redemption was accomplished by the Incarnation and passion of Christ. But no matter what qualities inhered in the patriarchs, whether naturally or supernaturally, God was still free not to become Incarnate later.[28] This means that the following triad of propositions is logically consistent: 'God infused charity into the

24. *Ibid.*; *Quaest. variae*, q.1, (OTh VIII, 19); attributed to Lombard, *Ord.* I, d.17, q.3, (OTh III, 476–77); *Quodl.* VI, q.2, (OTh IX, 590–91).

25. *Rep.* IV, q.10–11, (OTh VII, 209).

26. *Ord.* I, d.17, q.1, (OTh III, 453).

27. *Ibid.*, q.2, (OTh III, 473).

28. *Ibid.*, q.1, (OTh III, 449–450).

patriarchs', 'God established the law that if anyone has an infused quality of charity inhering in him when he dies, and if God becomes Incarnate and suffers death, that person will receive eternal life later', and 'God never becomes Incarnate or suffers death'. If so, however, the proposition 'God infused charity into the patriarchs and none of them will receive eternal life' is also logically consistent. And the past or present inherence of charity or grace in the soul is not logically sufficient for the future inherence of a beatific act.[29]

(3.2) *No Created Form Is Logically Necessary.* Some of Ockham's arguments that no created form is logically necessary for eternal life rest on general intuitions about what God could produce or conserve separately. (3.2.1) Since God is omnipotent, it follows that

(T16) Whatever God can do/make/produce by acting together with a secondary efficient or final cause, He can do/make/produce acting alone.

But created charity would be either an efficient cause or a disposing cause of eternal life. Hence, it could be supplanted by divine agency, and God could confer eternal life on someone who lacked any such habit.[30] (3.2.2) Again, God is a free agent that is not determined to act according to a certain concise order of things but can produce them in another way. Therefore, even though God does award eternal life only to those who have infused charity, He could do otherwise.[31]

Others of Ockham's arguments depend on analogies that would seem question-begging to his opponents. (3.2.3) Thus, he contends that since no inherent quality is necessary for God to produce a beatific act in someone, none is necessary for divine acceptance either.[32] In *Quodlibeta* VI, q.1, Ockham indicates that he has in mind the case of St. Paul, who "was given a

29. *Ibid.*, (OTh III, 453); *Quaest. variae*, q.1, (OTh VIII, 19–20).
30. *Quodl.* VI, q.1, (OTh IX, 587).
31. *Ibid.*; cf. q.2, (OTh IX, 590–91).
32. *Ord.* I, d.17, q.1, (OTh III, 445–46).

beatific act in the rapture'' in which he was caught up into the seventh heaven.[33] Whether or not to characterize St. Paul's experience as a beatific vision was a matter of some dispute among Ockham's contemporaries, however. (3.2.4) Again, he reasons that since a past mortal sin is sufficient for divine hatred, no presently inhering quality is necessary, and analogously no presently inhering habit of grace or charity would be necessary for divine acceptance either.[34] (3.2.5) Finally, he insists, no presently inhering habit is logically necessary for a meritorious act; since, by definition, no act is meritorious apart from divine acceptance, no presently inhering habit is necessary for divine acceptance either.[35]

Most of Ockham's attempts to defend such reasoning would strike his opponents as equally question-begging. For example, he offers the following two arguments that no presently inhering habit is a logically necessary condition of meritorious action: (i) suppose several acts of the same power or of the same kind meet the following conditions: (a) none is by its very nature worthy of eternal life; (b) each is good; and (c) none occurs in any evil circumstances. Ockham contends that so far as God's absolute power is concerned, he is able to accept one as much as any other. But He accepts the free volition of a soul infused with a habit of charity. Therefore, it is possible for Him to accept one that is not thus accompanied—say one that occurred before the infusion of grace.[36] (ii) Again, since meritorious and demeritorious acts are contraries, one is no more incompatible with the nature and its purely natural endowments than the other. Therefore, whatever has enough power by itself to produce a demeritorious act has—with respect to God's absolute power—enough power by itself to produce a meritorious act. But the will has enough power by itself to produce a demeritorious act. Therefore, no contradiction is involved in the will's being brought to a meritorious act by its purely natural

33. (OTh IX, 587).
34. *Ord.* I, d.17, q.1, (OTh III, 446–47).
35. *Ibid.*, (OTh III, 452–53).
36. *Ibid.*

powers.[37] But it is Aureol's principal contention that infused grace or charity is logically necessary and sufficient for divine acceptance, and hence that God's ability to accept an act is not—as argument (i) claims—indifferent among those which are and are not performed by an agent with such an infused habit. To argument (ii), John Lutterell objects,

> ...But this does not follow. For [a man is unable to earn merit by his purely natural powers], not because of any incompatibility between the act of earning merit and the nature, but because of the insufficiency of the nature. For it does not follow that if the nature alone suffices for defect that it will suffice for perfection.[38]

Some further proof of the irrelevance of infused habits to merit is wanting, and it is to Ockham's attempts to supply it that we now turn.

(3.3) *The Unsuitability of Habits.* The strategy behind Aureol's position is to render God's activity of accepting and rejecting, predestining and reprobating maximally rational by singling out some feature which is, by its very nature, acceptable to God and without which nothing can be acceptable to God. Ockham charges that infused habits are particularly unsuitable for this role. For if any creature were necessarily accepted by God, this would be either because of its natural goodness or because of its moral goodness. But any created rational substance has more natural goodness than any quality of accidental form inhering in it does. Thus, if God were bound, by the natural goodness of creatures, to accept them as worthy of eternal life, it would be the rational substance itself and no infused habit that would do the binding.[39] According to medieval theology, however, God does not accept every rational creature as worthy of eternal life. Hence, natural goodness must not be what compels divine acceptance.

On the other hand, if what makes a creature necessarily ac-

37. *Quodl.* VI, q. 1, (OTh IX, 587).

38. *Die Schriften des Oxforder Kansler Iohannes Lutterell*, ed. Fritz Hoffmann, (Leipzig, 1959), 50.

39. *Ord.* I, d. 17, q. 1, (OTh III, 450–51).

ceptable by God is its moral goodness, then the feature in question must be something that lies within the power of a free agent to produce or not. For in Ockham's opinion, it is a matter of definition that "nothing is meritorious unless because it is elicited or done freely and voluntarily."[40] Hence, nothing has any moral perfection unless it lies within the power of some free agent. The fact that something lies within the scope of divine free choice cannot be what confers necessary acceptance on the creature. For angelic forms are just as much within the scope of divine free choice as habits are; yet God does not accept every angelic form He produces. According to (T6), however, infused grace or charity is not naturally but only supernatually producible, and so does not lie within the power of any creature.

We have seen that Aureol's endorsement of (T6) threatens to defeat his strategy for rendering God's activity rational. Rather his theory seems to require some created form that creatures have prior to and independently of divine acceptance or rejection, predestination or reprobation. And if its necessary acceptability is to lie in its moral worth, it would seem that the latter should stem from the free choice of the created agent on whom and on whose acts acceptance is conferred. Ockham thinks that these considerations thoroughly disqualify infused habits for this role. Such habits are not acceptable in themselves and by their very natures, because "nothing is acceptable by its very nature unless it lies within the power of the one who has it."[41] But habits do not lie directly, but at most indirectly within the power of created agents, insofar as they have the power to produce the acts that cause the habits. Thus, a habit counts as praiseworthy or blameworthy, not of itself, but insofar as it was produced in the agents by freely elicited praiseworthy acts. But if no acquired habit is praiseworthy or blameworthy of itself, a fortiori, no supernaturally infused habit is either.[42] In that case, no supernaturally infused habit can be what makes *an agent*

40. *Ibid.*, q.2, (OTh III, 470); *Quodl.* VI, q.1, (OTh IX, 588).
41. *Ord.* I, d.17, q.1, (OTh III, 462); *Quodl.* VI, q.1, (OTh IX, 588).
42. *Ord.* I, d.17, q.1, (OTh III, 462); q.2, (OTh III, 471).

necessarily acceptable. Indeed, Ockham insists,

> an act of loving God above everything, together with the circumstances that the agent wills whatever would please Him, even if that means undergoing death and every danger and condemnation, does more, by its very nature, to make the agent who freely and spontaneously elicits it acceptable to God than any form that does not lie within its power, but is only received by the one who has it.[43]

Nor can the fact that *an act* is caused by such a habit render the act necessarily acceptable. For "since a habit is a natural cause, nothing is indifferent because of a habit."[44] Hence, to the extent that an act is caused by a habit, it does not proceed from the agent's free choice. Production by a habit does not add to, but subtracts from, the moral worth of an act.

## 4. OCKHAM'S OWN POSITION

Having criticized Aureol, Ockham concludes,

> Therefore, I maintain that with respect to God's absolute power, no supernatural form is necessary for the soul to be loved and accepted by God; and no matter what supernatural form is supposed to be in the soul, God can—with respect to His absolute power— not accept it. As a result, God thus always beatifies whomever He beatifies contingently and freely, mercifully and graciously. Thus, no one could merit eternal life by his purely natural power or even by any gifts conferred on him by God, unless God contingently and freely and mercifully ordained that one who has such gifts could merit eternal life. And nothing could make it necessary for God to confer eternal life on anyone...[45]

Negatively, Ockham affirms (T9). Contrary to (T2), no creature is logically sufficient for divine acceptance:

> no form, whether natural or supernatural, can necessitate God, in such a way that it includes a contradiction for such a form, prevenient to happiness, to exist in the soul and yet God never willed eternal life for

43. *Ibid.*, q.1, (OTh III, 451); cf. *Quodl.* VI, q.1, (OTh IX, 588).
44. *Ord.* I, d.17, q.2, (OTh III, 470).
45. *Ibid.*, q.1, (OTh III, 454–55).

that person.[46]

Again, "no matter what supernatural form is supposed to be in the soul, God can not accept it."[47] And, contrary to (T3), none is logically necessary: "with respect to God's absolute power, God can accept a soul without any form formally inhering in it."[48] Further, contrary to Aureol's instantiation of (T4),

> ...no contradiction is involved in an act's being meritorious without any such supernatural habit formally inhering in [the soul]. For no act—whether by its purely natural powers or by any created cause —can be meritorious except by the grace of God voluntarily and freely accepting it. Therefore, just as God freely accepts the good motion of the will as meritorious when it is elicited by someone who has charity, so, with respect to His absolute power, He could accept the same motion of the will even if charity were not infused.[49]

Positively, Ockham's position is that the logically necessary and sufficient condition of divine acceptance and eternal life is God's free and gracious act of willing them, and the logically necessary condition of a freely elicited created act's being meritorious is God's free and gracious choice to accept it. As for Aureol's argument that God is the most reasonable of lovers and so would make His choices only on the basis of logically compelling reasons, Ockham replies that "it is not necessary for God to love from any motive; rather he liberally and freely loves whom He loves."[50] "Whatever He does for us, He does by grace alone."[51] God's redemptive activity is marked, not by maximal rationality, but by liberality!

It follows from Ockham's positive position that

(T14) No act is, by its very nature, a meritorious act,

and

46. *Ibid.*, (OTh III, 455); cf. *Quaest. variae*, q.1, (OTh VIII, 21).
47. *Ord.* I, d.17. q.1, (OTh III, 452); *Quaest. variae*, q.1, (OTh VIII, 17).
48. *Ord.* I, d.17, q.1, (OTh III, 445).
49. *Ibid.*, q.2, (OTh III, 471–72).
50. *Ibid.*, q.1, (OTh III, 463–64).
51. *Rep.* IV, q.3–5, (OTh VII, 55).

(T15) No act or privation is, by its very nature, a mortal sin.

For a meritorious act is a freely elicited act that is accepted by God,[52] whereas a mortal sin is a freely elicited or omitted act, because of the commission or omission of which one deserves eternal punishment.[53] But neither of either pair of features belongs to anything or privation by its very nature. Given the thesis of the theologians that

(T16) Whatever God can do/make/produce by acting together with a secondary efficient or final cause, He can do/make/produce acting alone,

it follows that any act that is in fact freely produced, could have been produced by God acting alone; and any act that was in fact freely omitted, could have been prevented by God acting alone. But if the act were produced or prevented by God acting alone, it would not be produced or prevented by the creature freely. Either way, the acts or omissions that are in fact free are not essentially free, by their very nature, because they could exist without being free. Hence, they are not meritorious or sinful by their very nature either.[54] Further, while the production of the thing that is in fact meritorious does lie within the power of the will, the fact that such acts count as meritorious does not. Rather, according to Ockham's positive thesis, this depends upon God's free and contingent choice.[55] Likewise, for what counts as deserving of eternal punishment.[56] If, however, neither of the defining features pertains to the thing that in fact

52. *Ord.* I, d.17, q.2, (OTh III, 473); cf. (OTh III, 470).

53. *Rep.* IV, q.10–11, (OTh VII, 195, 223).

54. Applied to sins in *Rep.* IV, q.10–11, (OTh VII, 198) and to meritorious acts, *Quodl.* VI, q.2, (OTh IX, 590–92).

55. *Ord.* I, d.17, q.2, (OTh III, 472–73).

56. In this second argument, Ockham is following the lead of Scotus, who claimed that the fact that an act "is worthy of merit lies beyond its intrinsic and natural goodness" and its order to to eternal life "comes from the divine will that graciously ordains it" (*Ord.* I, d.17, p.1, q.1–2, n.114–15, (Vaticana V, 208–211)).

fits the description 'meritorious act' or 'mortal sin' by its very nature, it follows that no thing or privation is a meritorious act or mortal sin by its very nature. Thus, Ockham insists,

> ...mortal sin does not have a real definition, but only a nominal definition. For there is no one real thing, whether positive or privative or negative, that it signifies. Rather it signifies many that have no unity, whether *per se* or *per accidens*. Thus, so far as its nominal definition is concerned, it can be said that mortal sin is an act, committed or omitted, because of which one deserves eternal punishment.[57]

Or again,

> mortal sin is not any positive real thing or being of reason, but according to its nominal definition includes many positive things: viz., the act and the power and the future punishment. For someone to commit a mortal sin is only for him to produce or omit an act because of which he is ordained to eternal punishment...[58]

"Nor," Ockham declares, "is sin the privation of any good that actually inheres or inhered in the past, but the privation of a future good that should have inhered if he had not sinned."[59] Ockham's denial that mortal sin is a distinct kind of thing rests, therefore, not on considerations of ontological parsimony, but on the twin theological assumptions of divine omnipotence and divine freedom!

If sin were, by its very nature and essentially, some single thing, then the deletion of sin would, by its very nature and essentially, involve the removal of that thing. Ockham thinks there is no single thing with which sin is to be identified and no essentially damnable thing with which it is necessarily connected, and he concludes that "for sin to be deleted is not," by its very nature, "for any absolute or relative thing to be removed or separated from the sinner, but is a committed or omitted act not to be imputed to him for punishment."[60] Likewise, if sin or

57. *Rep.* IV, q.10–11, (OTh VII, 195).
58. *Ibid.*, (OTh VII, 223).
59. *Ibid.*, (OTh VII, 223–24).
60. *Ibid.*, (OTh VII, 202).

guilt were something that, by its very nature, rendered the sinner worthy of eternal punishment, or if it were the privation of something—say, grace—that by its very nature rendered the possessor worthy of eternal life, then sin or guilt and grace would be contraries by their very natures and formally. But since, for Ockham, what counts as acceptable or sinful, does so by God's free and contingent choice alone, he concludes that if sin and grace are contraries, they are such only by divine institution,[61] just as the spoken or written words 'whiteness' and 'blackness' signify contraries by human convention.

Ockham has argued that God's freedom and sovereignty over the redemptive process cannot be preserved if it is logically necessary for God to accept anyone with an infused habit of grace and logically impossible for Him to award eternal life to anyone who lacks it. Whether or not such supernaturally infused habits have a role to play in salvation depends entirely on God's free and contingent choices. What policies does Ockham think God has actually decided to follow in accepting and rejecting free creatures and their actions? To begin with, Ockham agrees that

(T17) According to God's ordered power, the Holy Spirit cannot be given to anyone who lacks infused charity and other such gifts[62]

where for the Holy Spirit to be given to someone is only for him to be a rational creature who is capable of meritorious action and *to be accepted* as worthy of eternal life. Further,

(T18) According to God's ordered power, God could not do otherwise than will eternal life for a person who has an infused habit of created grace inhering in him.[63]

So *in fact*, given God's actual choices and ordinances, no one is

61. *Ibid.*, (OTh VII, 203).
62. *Quaest. variae*, q. 1, (OTh VIII, 16, 23).
63. *Ord.* I, d.17, q.1, (OTh III, 456).

accepted by God or receives eternal life without infused grace. Consequently,

(T19) According to God's ordered power, no one elicits a meritorious act who lacks infused charity.[64]

Further,

(T20) According to God's ordered power, guilt is not taken away without an infusion of grace,[65]

although grace is sometimes infused without the expulsion of guilt since it is sometimes infused into someone who has no prior guilt (e.g., the good angels, the Blessed Virgin Mary, and Christ).[66]

Since, for Ockham, God is utterly free in the redemptive process, God is not bound by sacraments any more than He is bound by anything else.[67] Not only are sacraments not logically necessary or sufficient for the infusion of charity or grace, Ockham denies that they are its efficient causes either. He agrees with his opponents that the sacraments are not natural causes of infused grace. But he contends further that they cannot be instrumental causes.[68] Rather they are causes *sine quibus non*.[69] By divine ordinance, there is a constant conjunction between someone's receiving the sacrament of baptism under certain circumstances and his being infused with grace. But this constant conjunction holds, not because of any power (*virtus*)—whether natural or supernatural—inhering in the sacrament, but because God wills to produce grace in the soul whenever the sacrament is thus received.[70]

64. *Ibid.*, q.3, (OTh III, 477–78).
65. *Quodl.* VI, q.4, (OTh IX, 598–99).
66. *Rep.* IV, q.10–11, (OTh VII, 207).
67. *Ibid.*, (OTh VII, 212).
68. *Ibid.*, q.1, (OTh VII, 13–14).
69. *Ibid.*, (OTh VII, 14); *Dubitationes addititiae*, C.
70. *Rep.* IV, q.1, (OTh VII, 14, 18).

## 5. THE CHARGE OF PELAGIANISM AGAINST OCKHAM

To his contemporaries, Ockham's remarks about the role of grace in redemption seemed scandalously close to Pelagianism. For he allows the possibility that someone should be accepted by God or perform a meritorious act without infused charity or grace. God could accept someone who believed only what could be established by natural reason but who followed the dictates of right reason to the letter, and He could accept an act produced by purely natural powers as worthy of eternal life. Does Ockham not thereby revert to the position of Pelagius, who held that once informed of the ten commandments, it is within the natural capacity of a human being to use his free choice to merit salvation?

Ockham insists that nothing could be further from the case. First, while it *sounds* Pelagian to say that a human being can be saved without grace, he thinks that this misimpression will be dispelled when it is realized that 'grace' is taken two different ways. One way it stands for the infused quality of grace or charity, and that is the way Ockham understands it when he denies that grace is either logically necessary or logically sufficient for salvation. Another way, it stands for God's generous act of willing (or willing *prima facie*) eternal life for someone, and *that* grace is both logically necessary and logically sufficient for divine acceptance and eternal life.[71]

Second, Ockham protests that it is not his own position but Aureol's that borders on the Pelagian heresy:

> For Pelagius himself supposed that if someone performed a generically good act, God conferred eternal life on him necessarily, and not merely by His grace, in such a way that He would necessarily be unjust if He did not award eternal life to him. Moreover, although the above mentioned opinion [—i.e., Aureol's—] does not suppose that an act elicited by purely natural powers could necessitate God this way, nevertheless, it assumes that a supernatural form created by God does necessitate God. For he has to assume that it is contradictory for such a

71. *Ord.* I, d.17, q.1, (OTh III, 452, 466); *Rep.* IV, q.10–11, (OTh VII, 215).

> form to exist in the soul and that God will never give him eternal life.
>
> I, however, supposed that no form—whether natural or supernatural—can necessitate God in such a way that it is contradictory for any such form to exist in the soul prior to happiness, and yet God never will to confer eternal life on him. Indeed, He will give it to whomever He gives it freely by His grace alone, although with respect to His ordered power He could not do otherwise because of laws voluntarily and contingently ordained by God.[72]

If the Pelagian heresy lay in part in its limitation of divine freedom vis-à-vis the creation, then Ockham thinks that his own position is the "furthest removed from the error of Pelagius."

Finally, all such remarks by Ockham about the possibility of eternal life without grace, have to be understood as claims about what God can do with respect to His absolute power, not with respect to His ordered power. Pelagius thought that it was in fact possible, given the extant divine ordinances, that some exercise of purely natural powers should merit salvation. As is explicit in the last sentence of the above quote, however, Ockham thinks that no one will be saved without grace, according to God's actual ordinances;[73] nor will anyone who dies in a state of grace fail to receive eternal life.[74]

Since the injustice of the charge of Pelagianism as raised against Ockham seems so plain, how could his opponents have been fair-minded in advancing it? Did they simply conflate Ockham's claims about God's absolute and ordered power, respectively? The answer is "not entirely." Both John Lutterell and Walter Chatton advance more complicated arguments that Ockham's position is inconsistent, threatens divine justice, and/or leads to the Pelagian heresy.

(5.1) *Worthiness Is Not a Value Created by Divine Institution.* When John Lutterell presented his case against Ockham to Pope John XXII, Ockham's conclusions about the role of grace and guilt in human redemption and damnation were among

72. *Ord.* I, d.17, q.1, (OTh III, 455); *Quaest. variae*, q.1, (OTh VIII, 21–22); *Quodl.* VI, q.2, (OTh IX, 590–91).

73. Cf. *ibid.*, q.1, (OTh IX, 588–89).

74. Cf. *ibid.*, q.2, (OTh IX, 590–91).

those singled out for attention. Four objections are relevant here. (5.1.1) In Article III, Lutterell fixes on Ockham's claim that sin is not a privation of a past or present good but "the privation of a future good that should have inhered [in the person] if he had not sinned,"[75] and protests that

> then sin would only be an evil of punishment and not of guilt. Proof: if someone is deprived of what he was going to have and receive from someone else, this fact makes him, not culpable, but miserable. Thus no one reproaches someone born blind as culpable; rather he is pitied. He should not, therefore, be reproached just because he lacks vision, which by nature he should have been given and was denied, unless he lost his vision by his own desire. Thus, if sin in itself were only the privation of a good that someone was going to have by being given it or having it conferred upon him by someone else, it is not blameworthy. Thus, if God were then to regard someone as guilty because of sin, He should be unjust.[76]

Assuming that

(P) Necessarily, God is just,

Lutterell infers

(Q) Necessarily, God regards someone as guilty, if and only if that person possesses some guilty-making feature.

He then reasons that if sin were merely the privation of a future good, it would not be a guilty-making feature, since the mere privation of a future good is not a guilty-making feature. Hence, if Ockham were right, God would not regard anyone as guilty of sin—which is contrary to the facts.

(5.1.2) Lutterell turns the same theses against Ockham's contention that God can reprobate a man or an angel without any sin.[77] Protesting that "this article is dangerous, because it argues

75. *Rep.* IV, q.10–11, (OTh VII, 224).

76. *Die Schriften des Oxforder Kanslers Iohannes Lutterell*, ed. Fritz Hoffmann, 16.

77. *Rep.* IV, q.10–11, (OTh VII, 196–97).

that God is not really just," Lutterell oberves that

> if there is no sin in someone, there is nothing in him but what God created as a good creature or some evil that is not culpable of itself. Therefore, if there is no sin in someone, there is nothing in him but what God created as a good creature or some evil that is not culpable in itself

—in other words, no guilty-making feature.[78] But if God regards someone as guilty and liable to punishment without any guilty-making feature, then (Q) is false and so is (P), from which (Q) necessarily follows.

(5.1.3) Against Ockham's conclusion from (T9)—that God can not accept an act elicited by charity—Lutterell insists with Aureol that charity is a created quality that satisfies (T2). (5.1.3.1) His first argument is that

> through charity a man becomes formally loved [by God], just as through whiteness a man becomes white. But that someone is loved and not accepted is contradictory.[79]

It is no more logically possible that a person be infused with the created quality of charity and not be loved by God, then that whiteness should inhere in him without his being white. (5.1.3.2) Again, "charity is a love inspired in the intellectual nature by God and given to him with respect to a special grace through which he loves God more than a creature could by his purely natural powers." "But it is contradictory to say that God by His grace moves someone to love Himself above everything and He does not approve of that love, because He wills against and wills the same thing" and an omnipotent being cannot will contradictories simultaneously. Further, the same act of will cannot have contradictory objects simultaneously; so if God willed such, He would not be simple.[80]

Lutterell recognizes that Ockham will object to (5.1.3.1)-(5.1.3.2) that "God...is not compelled to accept anything out-

78. Hoffmann, *op. cit.*, Article XV, 49.
79. *Ibid.*, Article XIX, 53.
80. *Ibid.*

side Himself, because nothing outside God can necessitate God to do anything";[81] to say otherwise is an unacceptable assault on divine freedom in the redemptive process (see section 4).

Lutterell thinks that Aureol's further claim in (T6)—that the quality of charity is not naturally produced but only supernaturally infused—destroys this objection. For given (T6),

> it can be said that He brought this necessity on Himself... For if He gave what necessity obliges Him by its nature to the one to whom it is given, then—even though He graciously confers the gift in the beginning—He will necessarily be a debtor afterwards...[82]

Since God is free to infuse charity or not, His sovereignty over the redemptive process is insured. But given the fact that charity is necessarily acceptable, this freedom is the freedom to obligate Himself or not. Given such an obligation, it follows—contrary to Ockham's (T10)—

> that whatever may be the case concerning other things possible for God He could never annihilate anyone who like Paul exists in a state of grace and glory and preserve His justice (where this is understood in the sense of composition)...[83]

(5.1.4) Just as charity is sufficient for divine acceptance, so Lutterell maintains with Aureol, it is necessary. Against Ockham's contention that with respect to His absolute power, God can accept an act elicited by purely natural powers as meritorious, just as much as one that is elicited by charity, Lutterell objects that it "is dangerous and close to the Pelagian heresy," and defends this charge with argument. Just as (P) entails (Q), so also it entails

(R) Necessarily, God accepts $x$ as worthy of eternal life, if and only if $x$ has some worthy-making feature.

Hence,

81. *Ibid.*, 54.
82. *Ibid.*
83. *Ibid.*, 55.

1. Necessarily, if God accepts $x$ as worthy of eternal life, then $x$ has some worthy-making feature.

2. Divine acceptance of the nature alone attributes nothing to the nature.

3. Therefore, necessarily, if God accepts $x$ as worthy of eternal life, $x$ has some worthy-making feature prior to and independently of divine acceptance. (1 and 2)

4. Therefore, if God accepts a work that is produced by the agent's purely natural powers as worthy of eternal life, then His will accepting it finds worth and value in the nature prior to and independently of divine acceptance —which is the Pelagian heresy. (instantiation of 3)

Premiss 2 is ambiguous. If it means that divine acceptance does not necessarily produce any things (*res*) existing in the thing accepted, then Ockham agrees. But he will reject the inference of 3 from 1 and 2. For the act of divine acceptance itself is what makes a thing as worthy of eternal life. Hence, even though divine acceptance does not add any *thing* to the nature, it does not follow that it is worthy by any feature that it has prior to and independently of divine acceptance. On the other hand, if 2 means that as a result of divine acceptance it is not even the case that some new description applies to the nature, then it is obviously false. In Ockham's view, one new description that it fits is "worthy of eternal life."

Lutterell anticipates this defense:

> ...But they say that God can accept it as worthy, because a king can establish that a lead penny, so long as it nevertheless carries his image, has the value of a silver penny. Therefore, likewise, God can ordain that a natural work is worthy of eternal life without conferring anything beyond its natural features on it...[84]

His response parallels his argument in (5.1.1): just as it is one

84. *Ibid.*, Article XIV, 47–48.

thing to inflict harm on someone or deprive him of a good and another for him to be guilty of or deserving of such harm or deprivation, so it is one thing to confer a good on someone and another for him to deserve it. Thus,

> this argument is irrelevant. For the king can indeed ordain that a lead penny, so long as it nevertheless carries his image, should be just as acceptable as a silver one in commerce. But so far as its natural value is concerned, the natural properties of one and another, he cannot establish that one is as valuable as the other—that it is as decorative, as solid, as reflective of the king's crown as the other. Thus, in the case at hand, God can accept an act elicited by purely natural powers by giving eternal life to the agent, but by merit as worthy only if purely natural features can be worthy of eternal life the way Pelagius supposed...[85]

And he reverts to the arguments of (5.1.3) to insist that it is the inherence of the form of charity that gives someone the property of being loved by God, and God cannot give someone that property in any other way. When Ockham objects, "these natural features do not give the subject the property of being spiritual unless God accepts them,"[86] Lutterell replies that this is trivially true. Nothing happens unless God accepts that it happen: "Whiteness does not give the property of being white unless God accepts this and is pleased by it." Nevertheless, "God's will, insofar as it is pleased and causes nothing, does not bring it about that these natural features give their subject the property of being worthy in some way that they cannot do of themselves."[87]

(5.1.5) Ockham thought he could steer a course between Aureol and Pelagius by holding, on the one hand, that

(S) With respect to His absolute power, God can accept someone or some act without any infused charity or grace, and He can not accept someone or some act with such infused charity or grace,

85. *Ibid*
86. *Ibid.*, 48.
87. *Ibid.*, 49.

while maintaining on the other that

(T) With respect to His ordered power, God cannot accept anyone or any act without infused charity or grace, and He cannot not accept anyone with it.

The former guarantees divine freedom, while the latter preserves the theologians' assertion that there is no salvation without grace.

Chatton proposes, "without asserting it," that it is possible to defeat Ockham's strategy and collapse the contrast between what God can do with respect to His ordered power and what He can do with respect to His absolute power, by means of the following thesis:

(U) Necessarily, if something $x$ is meritorious or worthy of divine acceptance because of something else $y$, then $y$ is laudable of itself.

Thus, if Ockham maintains (in (S)) that it is possible for God not to accept a person or act with charity, then charity is not laudable of itself. It follows from (U) by Modus Tollens, that nothing is made worthy of divine acceptance because of charity. If Ockham allows the logical possibility that charity or someone infused with charity not be accepted, then he cannot consistently claim that charity is what makes anyone or any act acceptable in fact (contrary to (T)). Ockham can still claim that "a meritorious act is elicited only *when* it exists together with that charity," but he will have to admit that "being meritorious does not pertain to the act *by* that charity."[88] By the same token, Chatton could have added, if it is possible that God should accept an act produced by purely natural powers, then some naturally produced features would be laudable of themselves—which is the position of Pelagius.[89]

88. *Lectura* I, d.17, q.1, edited in Girard J. Etzkorn, "Walter Chatton and the Controversy on the Absolute Necessity of Grace," *Franciscan Studies* N.S. 37 (1977), 40.

89. Cf. Etzkorn, *ibid.*, 50–52.

(5.2) *Ockham's Reply to Lutterell.* Ockham's differences with Lutterell are absolutely fundamental. For Lutterell agrees with Aureol against Ockham that infused charity is both a logically necessary and a logically sufficient condition of divine acceptance. In (5.1.1), (5.1.2), and the defense of (5.1.4), Lutterell allows that divine acceptance or rejection can confer a good or inflict a harm, but emphatically denies that either is what makes a thing worthy of such good or harm. The latter roles are assigned by Lutterell to charity and guilt, respectively. Again, in (5.1.3), Lutterell sides with Aureol in insisting that it is just as impossible for someone with inherent charity not to be loved by God as that someone with inherent whiteness not be white. Hence the inherence of charity is logically sufficient. Ockham rejects this analogy. He recognizes that creatures have natural goodness or natural privations prior to and independently of divine acceptance or rejection. But, refusing to identify worthiness with any such natural property or privation, he insists that the divine acts themselves confer the property of worthiness on a person or act, just as the act of a king or government confers commercial value on coins or paper, and just as linguistic conventions confer semantic properties on spoken and written words. And just as the property of commercial value is logically independent of the natural value of the coins or paper, and the property of conventional signification of any natural properties and similarities belonging to a sound or mark, so worthiness of eternal life or eternal punishment is logically independent of any created thing, whether naturally or supernaturally produced. Without some independent justification, Chatton's use of (U) begs the question against Ockham's position.

Thus, responding to Lutterell's arguments, Ockham will grant (P) and even admit that (Q) and (R) follow from it. But he will insist that it is the divine act of acceptance or rejection itself that makes them worthy; it is a mistake to look for some other worthy-making feature that could be possessed prior to divine acceptance or rejection. And since such worthiness is not a natural feature, the mere fact that the act of divine acceptance does not alter the natures of persons or acts—any more than governmental acts alter the natural value of metal or paper, or

linguistic conventions the natural affinities of marks or sound —has no bearing on whether or not it makes them worthy of eternal life.

What about Lutterell's contention that (T2)–(T5) do not really limit divine sovereignty, so long as they are combined with (T6)? After all, if it is a free and contingent act by which God confers grace on someone, then the obligation to the creature is freely assumed. Does not Ockham himself agree with Lutterell and Aureol in thinking that God has freely obligated Himself by His actual ordinances and promises, to give eternal life to rational creatures who die in a state of grace and eternal punishment to those who die in mortal sin? With respect to His ordered power, He cannot do otherwise (T17)–(T20). Is this not tantamount to saying that God brings on Himself the necessity of conferring such rewards and punishments? What further quarrel can Ockham have with them?

If Ockham believed that God's ordinances created for Him obligation to creatures, he certainly does not emphasize the point. The closest he comes to asserting this is in *Reportatio* IV, q.3–5, (OTh VII, 45), where he declares that

> God is a debtor to no one unless He has so ordained it. With respect to His absolute power, He can do the contrary [i.e., withhold rewards for] merit, without any injury [to the person]...

Strictly speaking, 'God is a debtor to no one unless He has so ordained it' is equivalent to 'If God is a debtor to someone, He has so ordained it'—which does not entail 'God is a debtor to someone'. Nor is it obvious that Ockham regards the divine ordinance that whoever dies in a state of grace will receive eternal life, as one by which God *obliges* Himself to give eternal life to all such people. With all his emphasis on the distinction between God's conferring a good or inflicting a harm and someone's being worthy of it, Lutterell should be the first to recognize a distinction between what someone declares that he will do as a matter of actual policy and what he is obliged to do.

Perhaps it will be said that when I simply declare that I will drink tea for breakfast every Wednesday for a month, I do not

thereby obligate myself to do so. But if I promise to pay you $100 in ten monthly installments, I do thereby obligate myself to do so. God's predictions or expressions of His intentions do not obligate Him; but His promises do.

Ockham does imply that whatever God does, He does in accordance with His ordinances. But the question remains—the texts do not provide a clear and explicit answer—whether he regards such ordinances as promises. And even if he had, would he have held that God is obliged to keep His promises, just as much as we are to fulfill ours?

Even granting—what is commonly assumed in the secondary literature—that Ockham believes that God is thus obligated, he will still set himself against Lutterell and Aureol. For it is one thing to say that God's own volition binds Him; another to suppose that the past or present inherence of some created quality in a created substance could necessitate some future divine action. Ockham finds the idea that any created state of affairs should necessitate God to do something fundamentally blasphemous.[90]

(5.3) *Worthiness as Dependent on Divine Promises.* Despite his suggestion of how (U) could be used to reduce Ockham's position to contradiction, Chatton himself sides with Ockham against Aureol and Lutterell in maintaining that no creature can be worthy of eternal life independently of God's promises:

> ...when he asks what it is to be worthy of eternal life, his question can be taken two ways. Either he understands that a man is worthy of eternal life the way someone is worthy of a reward because of his equivalent merits, so that we would imagine that God owes the reward apart from His having made any promise. No pilgrim is worthy of eternal life this way...Otherwise, it can be understood that a man is worthy of eternal life when eternal life is owed him by God's general promise by which He promises to give eternal life to anyone who exists in a state of grace at the end—evidently after the price of redemption has been paid. A pilgrim can be worthy of eternal life this way...[91]

90. Heiko Oberman, *The Harvest of Medieval Theology: Gabriel Biel and Late Medieval Nominalism*, (Grand Rapids, MI, 1967).

91. *Lectura* I, d.17, q.1, in Etzkorn, *op. cit.*, 48; cf. 53.

Further, he agrees with Ockham that God's promise is free and merciful. "The fact that God promised to give eternal life to anyone who is found in a state of grace at the end of his life, after the redemption of the human race, proceeds from God's mercy." But God's promise does create an obligation on His part to give any such person eternal life, so that it is now a matter of justice that He does so. And Chatton believes that it is logically impossible for God to break His promises:

> ...if given the extant promises, He did not give happiness to him according to the form of the promise, he would act contrary to His just promise—which He cannot do because this involves a contradiction.[92]

Nevertheless, even if worthiness is not an intrinsic feature of any creature but one produced by divine promises, Chatton thinks that Ockham is wrong to reject Aureol's conclusion—

(V) It is logically impossible that sin should be taken away without infused grace,

and

(W) It is logically impossible that an act should count as meritorious without charity.

For these are easily sustained, once it is understood that 'sin' and 'merit' can be taken two ways—one way for what counts as sin or merit, respectively, according to the law God has now established, and another for what would count as sin or merit if He had laid down other laws instead. According to God's actual laws, however, a person counts as a sinner and no act of his counts as meritorious unless he possesses infused charity or grace. Hence, taking 'sin' and 'merit' the first way, (V) and (W) are true. For it is logically impossible for God to act according to the present laws—which stipulate that someone counts as a sinner and none of his acts count as meritorious unless grace is infused—and yet remit sin and count an act as meritorious

92. *Ibid.*, 49.

without infusing grace. Since God could have legislated differently, however, (V) and (W) will not hold good if 'sin' and 'merit' are taken the second way.[93]

Ockham would have unmasked Chatton's defense of (V) and (W) as an empty gesture that preserves merely verbal without substantive agreement with Aureol and Lutterell and disagreement with Ockham. For it follows from Chatton's first nominal definition of 'sin' and 'merit' that (V) and (W) are trivially true, and Ockham is not about to deny that. So understood, however, (V) and (W) assert no more than his own theses (T19) and (T20). What Ockham rejected was (V) and (W) understood as instantiations of (T5) and (T4)—and Chatton has joined Ockham in finding them false on this interpretation. The shabbiness of Chatton's reasoning here has led the editor to hint that Chatton exaggerated his agreement with Ockham's Avignon opponents in the hope of winning papal preferment.[94]

(5.4) *Habits versus Acts.* Recall Ockham's argument that if infused habits filled the role defined by (T2)–(T4), this would be either (i) because of their natural or (ii) because of their moral goodness. Not (i), because if natural goodness were the basis, any rational substance would be more intrinsically acceptable on its own than any quality would. Not (ii), because (a) morally speaking, nothing is acceptable by its very nature unless it lies within the power of the one who has it. But natural habits are at most indirectly within the agent's power, and supernaturally infused habits are not within the creature's power at all. The freely elicited act itself has more of what it takes to be instrinsically acceptable. (b) If habits are not acceptable of themselves, they cannot be what makes the agent acceptable. (c) Finally, infused habits are not what makes an act acceptable, because habits are natural causes, and people are not praised or blamed for what they are determined by a natural cause to do.

(5.4.1) Chatton focuses on (iia), and wonders how Ockham's assumption that

93. *Rep.* I, d.17, q.1, in Etzkorn, *op. cit.*, 56, 57–58.
94. Etzkorn, *op. cit.*, 38.

(T21) A thing is intrinsically more praiseworthy to the extent that it lies within the agent's power,

can be rendered consistent with his thesis

(T9) No creature is such that it is necessarily or intrinsically acceptable (unacceptable) to God; none such that it is necessarily or intrinsically worthy of eternal life (punishment),

if 'praiseworthy' in (T21) is understood to mean 'acceptable for eternal life'.[95] To say that a free act is more intrinsically praiseworthy than an infused habit, is to imply that the free act is intrinsically praiseworthy—which is contrary to (T9). As for Ockham's argument, Chatton charges that his division between natural and moral goodness is not exhaustive; it is necessary to add a third, supernatural goodness. Infused charity has a supernatural goodness by virtue of God's promise to give eternal life to anyone who has it when he dies.[96] (T21) is acceptable and consistent with (T9), if 'praiseworthy' means merely 'praiseworthy from the point of view of natural reason and philosophy'. But on that interpretation, it is irrelevant to the theological dispute about what deserves a supernatural reward.[97] In any event, Ockham is wrong to maintain that supernaturally infused habits are not even indirectly within our power. For given that charity or grace is regularly conferred when the various sacraments are received, it is as indirectly within our power to receive charity or grace by freely choosing to receive the sacraments, as it is within our power to acquire a virtuous habit by freely performing a virtuous act.[98]

(5.4.2) When Lutterell turns his attentions to (iia), he misconstrues Ockham's claim that the free act would be a better candidate as the contention that the free act is the total cause of

95. As it is in *Ord.* I, d.17, q.1, (OTh III, 452–466).
96. *Lectura* I, d.17, q.1, in Etzkorn, *op. cit.*, 52.
97. *Ibid.*, 51, 53.
98. *Ibid.*

merit. This he denounces as containing "the Pelagian error," because "merit should not pertain to it as a total but as a partial cause, not as a principal but as a secondary cause."[99] Indeed, Lutterell charges, it is worse than the Pelagian error, "because Pelagius at least supposes that a man could easily earn merit through charity," while Ockham "takes away charity as a basis or source of merit" altogether.[100]

(5.4.3) Further, Lutterell protests that Ockham's argument (iic) cannot possibly stand up. For virtues and vices are just as much habits as charity is; and they do render the acts they produce more praiseworthy and blameworthy, respectively. Ockham is misled by an ambiguity in the claim that habits are natural causes. One way, natural causes are contrasted with rational causes on the ground that the former have power over a single effect; the latter over opposites. This way, virtues and vices are natural causes, because virtues incline one only to what accords with right reason, vices to what is at odds with it. Another way, a cause is said to be a natural cause since it always acts to the limit of its power, unless there is some external impediment. When we say that an agent is not praised or blamed for what natural causes determine him to do, it is the latter and not the former sense of 'natural cause' that we have in mind. But, Lutterell contends, virtues and vices are not natural causes in the latter sense, since they sometimes incline one more strongly, sometimes less strongly.[101]

(5.5) *Ockham's Replies*. Ockham would have found some of these points easy to dismiss. For instance, he will agree with Chatton that the dichotomy between natural and moral goodness is a false one, but deny that this has any relevance for his argument (in section (3.3)), which is concerned with what basis Aureol could find for saying that infused grace or charity is necessarily acceptable. If Aureol were to admit the third possibility on which Ockham and Chatton agree—viz., a value contingently created by divine promises or institution—he

99. Hoffmann, *op. cit.*, Article XX, 55–56.
100. *Ibid.*, 55.
101. *Ibid.*, 55–56.

would have thereby granted everything that Ockham wanted to establish against him.

Again, Ockham anticipates Chatton's suggestion that the infused habit has the same claim to natural merit as a naturally produced virtue does, since the former is just as much indirectly within the power of free choice as the latter. But he rejects it on the ground that infused charity is regarded as meritorious even in infants, where there is no preceding voluntary disposition.[102]

The really troublesome issue for Ockham is that of how to reconcile (T9) with his claim that a freely elicited act of loving God above everything

> has the property of being acceptable by its very nature more than the habit does, both because [the act] is more meritorious, and because it is more within the power of the agent, and consequently—since it is good—is more praiseworthy.[103]

After all, Ockham has insisted in (T14) that no act is intrinsically meritorious. One thing is clear: Ockham does not intend, contrary to Lutterell's assumption in (5.4.3), to assert that the freely elicited act is sufficient for ("a total cause" of) divine acceptance. For in the second of the cited passages, Ockham advances the proposition

1. The freely elicited act has the property of being accepted by its nature more than the habit does,

as a premiss in a *reductio* argument which continues as follows:

2. If such a freely elicited act were acceptable by its very nature, then someone could merit eternal life by his purely natural powers—which is impossible.

3. Therefore, God can not accept such a freely elicited act. (2)

102. *Ord.* I, d.17, q.1, (OTh III, 451).
103. *Ibid.*, (OTh III, 449); cf. (OTh III, 451).

4. Therefore, God can not accept such an infused habit. (1 and 3)[104]

Perhaps what Ockham has in mind is something like this. It is true by definition that no act is meritorious or acceptable unless it is freely elicited. So being freely elicited is a logically necessary condition of something's being acceptable. Hence, if anything were acceptable by its very nature—which nothing is by (T9)—it would be the act rather than the habit.

It is not clear why Ockham would have wanted to assert even this much, however. Since worthiness of eternal life is a value dependent solely on God's free and contingent volition, why could God not have legislated that everyone with blue eyes is worthy of eternal life, no matter what he does, just as a king can legislate that anyone who is in a certain room at a given time gets $1,000,000? In maintaining the contrary, are not Ockham's claims about the order of salvation semi-Pelagian?

## 6. CONCLUSION

In defining his position about grace, acceptance, and merit, Ockham is intent on preserving divine freedom and sovereignty over the redemptive process. The keystone of his view is the assumption that worthiness of eternal life or eternal punishment are not values natural to any created thing—

(T9) No creature is such that it is necessarily or intrinsically acceptable (unacceptable) to God; none such that it is necessarily or intrinsically worthy of eternal life (punishment).

—but are conferred solely by divine institution or legislation. Since God's choice is free and contingent, a wedge is driven between what He can do with respect to His absolute and ordered power, respectively:

104. *Ibid.*, (OTh III, 451).

(S) With respect to His absolute power, God can accept someone or some act without any infused charity or grace, and He can not accept someone or some act with such infused charity or grace,

while

(T) With respect to His ordered power, God cannot accept anyone or any act without infused charity or grace, and He cannot not accept anyone with it.

Further, since worthiness depends on divine institution, divine justice in awarding eternal life and eternal punishment is trivially assured: no one deserves it or is owed it except by God's free and contingent choice. So long as He gives it to whomever He wills to give it, He will be just. Should His choices be arbitrary, that will not suffice to show them unreasonable, and God's wisdom is likewise insured thereby.

The reaction of Lutterell and Chatton demonstrate that Ockham's solution to our original trilemma is untenable, if worthiness of eternal life (punishment) is supposed to be a natural value. For then the distinction between (S) and (T) collapses. What justice can require God to accept, it does require Him to accept. Ockham will either have to take (S) as normative for actual as well as merely possible situations—which revives the charge of Pelagianism—or regard (T) as regulative of all possible as well as actual situations—which reverts to the position of Aureol. Either way, God's freedom of choice in accepting and rejecting is limited by the assumption that some feature is naturally and intrinsically worthy of eternal life (punishment).

Ockham seems to compromise his own strategy, however, when he combines (T9) with

(T21) A thing is intrinsically more praiseworthy to the extent that it lies within the agent's power,

and infers that a freely elicited act is intrinsically more acceptable than any habit is. For, as Chatton argues, Ockham seems

thereby to make the property of being freely elicited a logically necessary condition of divine acceptance. Whereas Aureol and Lutterell seem to restrict God's freedom by saying that He is not free to accept any act without the property of infused grace, Ockham seems to be saying that He is unable to accept acts that are not freely elicted. If the former stipulation could restrict divine freedom and still seem Augustinian because it emphasized the divine contribution to salvation, the latter appears at least semi-Pelagian in making the human contribution necessary. Not even this concession turns Ockham into a full-fledged Pelagian, however, for the addition of

(X) Necessarily, only freely elicited acts are accepted by God

to (S) is still compatible with (T), and it is (T) that Pelagius denies.

# 31

# Predestination, Reprobation, and Freedom—Human and Divine

Is there a cause of predestination in the predestinate and a cause of reprobation in the reprobate? This question focussed concerns of fundamental importance for medieval Christian theology. Thirteenth and fourteenth century theologians were agreed that

(T1) From eternity, God immutably chose some rational creatures (the elect) to order to eternal life (to predestine) and rejected others thereby abandoning them to eternal punishment.

Further, they insisted that, unlike God's antecedent disposing will that everyone should be saved (see chapter 28 above),

(T2) Divine predestination (reprobation) is certain and unobstructable.

The question then arose whether there is anything about the creature that explains God's choice. That there were differences between the elect, on the one hand, and the reprobate, on the other, was affirmed by the Saints and the Doctors (see chapter 29 above). For they stipulated that

(T3) (a) Whoever dies in a state of grace will receive eternal life; and (b) whoever dies in a state of mortal sin will receive eternal punishment.

And where adults are concerned, the inherence of the created quality of grace was correlated with their choices to seek the

sacraments and to obey God's commands. But what explains this coincidence of divine predestination, obedient created choice, and the inherence of infused grace? There are two problems with saying that eternal and unobstructable divine ordinances determine the predestinate (reprobate) person to receive (not to receive) grace and make (fail to make) obedient choices. First, the question of God's criterion for distributing eternal life gets pushed back to that of His rationale for assigning grace and obedient choices. The stakes for creatures—eternal life versus eternal punishment—are extremely high. Considered apart from their actual choices and infusions of grace, human beings are equal with respect to their natural endowments and (after Adam) their fallenness. How can God be either reasonable or just in treating such like cases differently, especially when Scripture affirms that

(T4) God does not play favorites?[1]

Further, this suggestion seems to make divine predestination and reprobation incompatible with

(T5) Rational creatures have free choice,

which it is anathema to deny. Both of these difficulties would be avoided by the opposite answer: that created choices determine divine predestination (reprobation) and the infusion of grace, in that God distributes first grace and then eternal rewards and punishments on the basis of a foreseen good (bad) use of free choice. Yet, this solution seems to verge on semi-Pelagianism, preserving created freedom by lessening divine control over the redemptive process.[2] Human accountability to God for sin seemed to tell against any thoroughgoing divine determinism

1. Acts 10:34; Aquinas, *Treatise on Predestination*, question 6 in *Truth*, trans. Robert W. Mulligan, a.2, pro-arguments, sec.8–9; *Summa theologiae* I, q.23, a.5, obj.2 and 3; Ockham, *Ord.* I, d.41, q.u, (OTh IV, 597–98).

2. Aquinas, *Treatise on Predestination*, q.2, arguments-contra, sec.2′ and 4′.

of created choices. Yet, certain passages from Sts. Paul and Augustine continually tempted theologians to endorse

(T6) (a) There is no cause of predestination in the predestinate; and (b) there is no cause of reprobation in the reprobate,

and to dismiss objections with appeals to the unsearchable mysteries of God who is wiser than men who ask such questions.

Before wrestling with attempts by Aquinas, Henry of Ghent, Duns Scotus, and Ockham to reconcile (T1)–(T5), however, it is worth noting one sense in which all agreed there was no such cause. For 'divine predestination' stands for an eternal and immutable act of will, and the real thing with which this act is identified is the divine essence itself, which is altogether uncausable by anything human or divine. When it is asked whether there is a cause of predestination in the predestinate or of reprobation in the reprobate, what is meant is not whether the real thing that is the divine volition has a cause of its existence, but whether the direction of that real thing towards one intensional object rather than another has any motivating reason.[3]

Further, if there were a cause or reason for predestination (reprobation) in the predestinate (reprobate), it would have to lie in something other than an effect of predestination (reprobation). Otherwise the putative explanation would be circular.[4]

## 1. AQUINAS'S POSITION

Aquinas insists not only on (T1) eternal divine predestination and reprobation[5] and (T2) their certainty[6] but also on (T6):

3. Aquinas, *Summa theologiae* I, q.23, a.5; Henry of Ghent, *Quodlibeta* VII, q.5, (Paris, 1518, T.II, fol.307 C); Ockham, *Ord.* I, d.41, q.u, (OTh IV, 610).

4. Aquinas, *Summa theologiae* I, q.23, a.5.

5. *Ibid.*, q.23, a.1, and 3.

6. *Ibid.*, a.6.

nothing about the particular creature motivates God to elect or abandon him in particular, any more than anything about one bit of prime matter motivates God to create it initially under the form of fire rather than the form of air.[7] Thus, nothing about Peter explains why God elects him instead of Judas, and nothing about Judas explains why God reprobates him instead of Paul. The fact that God eternally wills to give Peter glory, gives Him reason to give Peter the grace that will enable him to perform meritorious actions, and the fact that He will give Peter grace gives Him a reason to supply the things that prepare Peter for grace. Thus, one effect of predestination may explain another. Yet, the reason why any of these benefits should be conferred in the first place is not to be found in Peter, but rather in divine goodness.[8]

Nevertheless, Aquinas insists,

(T7) There is a reason why some human beings or other are predestinate, and a reason why some human beings or other are reprobate,

just as the desire to populate creation with natural objects of different species gives God a reason to create some part of prime matter or other initially under the form of air.

> ...For God is thus said to have made everything for the sake of his goodness, in order that divine goodness should be represented in things. But it is necessary that divine goodness that is one and simple in itself, be represented many ways in things, because no creature can attain divine simplicity. Thus, various degrees of things are necessary to complete the universe—some with a high, some with a low place in the universe. And to preserve the manifold degrees in things, God permits some evils to be done, lest many goods be prevented, as was said above...[9]

Aquinas argues as follows:

7. *Ibid.*, a.5 and ad 3.
8. *Ibid.*, a.5.
9. *Ibid.*, a.5, ad 3.

(i) Representing the nature of God many ways in creatures is necessary for the perfection of the universe.

(ii) God is just and merciful.

(iii) Therefore, (a) showing divine justice in punishing guilt is necessary for the perfection of the universe, and (b) showing divine mercy by sparing sinners is necessary for the perfection of the universe. (i and ii)

(iv) Therefore, (a) the defects of guilt and punishment are necessary for the perfection of the universe, and (b) the benefits of mercy are necessary for the perfection of the universe. (iii)

(v) Therefore, the perfection of the universe requires that some human beings be predestinate and some reprobate. (iv)[10]

Eternal divine predestination and reprobation thus appears to be a lottery in which eternal life falls to some and eternal punishment to others prior (in the order of explanation) to any particular merits or defects of their own.

If it is asked how such an account can possibly be reconciled with (T4) and divine justice generally, Aquinas replies

> ...This would be contrary to the notion of justice, if the effect of predestination were owed as a debt and not as a gift of grace. For where gifts of grace are concerned, a person can give more or less to whomever he wants, without taking away anything owed to anyone and without prejudice to His justice...[11]

(T4) applies only where the relevantly equal parties have some claim on the goods distributed. But no creature has a rightful claim to eternal life. Hence God's treating like cases differently here does not count against His justice.

10. *Ibid.*
11. *Ibid.*

If (T6) is true, however, and (T2) divine foreordination is certain, how can (T5) created freedom be preserved? Aquinas thinks this is a simple matter. For although divine providence is the universal cause of everything in creation, some things are necessary in relation to their proximate causes and some contingent. Free choices, insofar as they proceed from the will which is a power for opposites, are among those effects of providence that are contingent with respect to their proximate causes. Divine predestination thus does not take away freedom and contingency in this sense.[12]

But what sense is it? If the divine will by which Peter is elected and Judas rejected is the universal cause of Peter's perserverance and Judas's final sin, then either the universal cause is the first member of a causal chain that is sufficient to actualize Peter's power to persevere (Judas's power to sin) as opposed to his power to sin (Judas's power to persevere), or it is not. If not, then (T2) seems to be forfeited. If so, then to call an effect contingent is simply to say that its cause is a power for opposites and not to preclude external determination of the actualization of that power. Free choice would thus be compatible with a thoroughgoing divine determinism. And only so interpreted, will Aquinas have reconciled (T5) with (T1) and (T2).

## 2. CRITIQUE OF AQUINAS

Henry of Ghent rejects Aquinas's argument for (T7). (2.1) While Henry accepts (i) that creation must imitate God and (ii) that divine goodness includes both justice and mercy, he rejects (iiia) and (iva) and presumably the validity of the inference to them. He writes,

> ...it is true that if sins occur, He punishes them temporally or eternally lest the infamy of guilt remain without the decorum of justice. For unless God could deal with the evils of guilt in an orderly fashion, He would never permit them to happen, as Augustine says in *Enchiridion*. Otherwise the universe would be imperfect—viz., with something in it

12. *Ibid.*, a.6.

> that could be ordered that was not ordered. But that He intentionally permits sins to take place and exist in order that, once done, He might order and punish them, I do not see...[13]

And this for two reasons: (2.1.1) First, Henry does not see how the evils of sin, guilt, and punishment are necessary for creation to imitate God.

> ...For to the perfection of the universe pertain only its essential parts, species—evidently positive beings—but nothing defective, whether it is guilt or punishment or even anything positive that depends on them as such...[14]

No creation could represent the divine essence perfectly, because creatures, by their very nature, fall short of the divine essence. Henry reasons that, a fortiori, the ability of creatures to mirror the divine nature will not be enhanced by depriving them of features that, by their very natures, they properly ought to have. Where such defects as sin and guilt occur, God can give them a proper order. But they are scarcely necessary to the perfection of the universe.

At issue here between Aquinas and Henry are contrasting intuitions about how the value of wholes is affected by the value of their parts. Aquinas believes that including negatively valued parts (defects and privations) may yield a whole of higher value than could be obtained without any negatively valued parts. But while Henry agrees that a whole with negatively valued parts could be as good as one without any (a universe in which sins are justly punished as one in which rational creatures exist but do not sin at all), he does not see how a whole with negatively valued parts could be better than any and every whole obtainable without negatively valued parts.

(2.1.2) Further, Henry thinks, Aquinas's view violates the philosophical axiom that

(T8) Something can be the object of intention, appetite, or

13. *Quodlibeta* VIII, q. 5, fol.309v M.
14. *Ibid.*, fol.310r M.

will only insofar as it is good.

For if God intentionally permits sins in order to punish them afterwards, He intends one evil—the sins—for the sake of another—the punishments—and so intends evils qua evils.[15]

Whatever may be said for or against (T8), it was fundamental to Aquinas's ethics and he would doubtless deny that he had violated it. On his account, God does not simply intend one evil—sin—for the sake of another—punishment—but intends justly punished sins as a means of manifesting His goodness. And everyone allows that it is possible for evils to be the objects of intention, appetite, or will insofar as they lead to (greater) goods.

(2.1.3) Ockham counters that even this contention of Aquinas is theologically unacceptable.

> Against his other claim—that the cause of [God's] predestining some and reprobating others is, evidently, to show His goodness—this seems untrue. For whoever intends something, intends what is ordered to it and that without which it would not be posited. But eternal punishment would not be posited without sin, and sin is ordered to eternal punishment. Therefore, whoever absolutely and primarily and precisely intends eternal punishment for the sake of something else—viz., for showing his goodness—intends sin. But God does not intend sin. Therefore, He does not precisely intend eternal punishment to show His goodness.[16]

Ockham's general philosophical thesis—that if an agent $x$ intends an end $E$, and $M$ is a necessary means to $E$, $x$ intends $M$—presumably requires amendment to yield 'if an agent $x$ intends end $E$, and $M$ is a necessary means to $E$, and $x$ knows that $M$ is a necessary means to $E$, then $x$ intends $E$'. But this alteration is unimportant here, since divine omniscience makes the former just as applicable to God as the latter. It is tempting to suppose that Ockham regards his theological premiss,

(T9) God does not intend sin,

15. *Ibid.*, fol.309v M.
16. *Ord.* I, d.41, q.u, (OTh IV, 601).

as a necessary truth, given God's necessary existence. For a creature to sin is for him to act contrary to God's will. Hence, it is logically impossible that God intend or will $x$ to do $A$ and that $x$'s doing $A$ counts as a sin. Given Ockham's distinction of ways of taking 'divine will', however, this construal may be over simple (see chapter 28 above). (T9) may reflect a common theological judgment with which Aquinas and Leibniz disagreed: that what God cares most about in creation is the obedience of His rational free creatures, and hence that whatever other defects in creatures He might will (if any), sin and guilt will not be among them.

(2.2) Aquinas supports his endorsement of (T6) along with (T7) by appealing to the analogy with prime matter. Nothing in a given bit of prime matter explains why it should receive the form of air rather than another bit of prime matter, or why it should receive the form of air rather than the form of fire, because prime matter is all alike (see Part IV, chapter 16 above). Similarly, human beings share human nature and (after the fall) the same defects and liabilities; hence (T6). Nevertheless, since a variety of species of natural things is necessary to show the divine nature of creation, God has a reason for endowing some bit of prime matter or other with the form of air, and some or other with the form of fire. Likewise, predestination and reprobation are necessary for showing His goodness; hence (T7).

(2.2.1) Henry charges that this analogy does not hold good for two reasons. First, as indicated in (2.1.1), "all these different forms are essential to the perfection of the universe, but the differences among men existing in glory and punishment are not."[17] Second, fallen human beings are not as much alike as bits of prime matter are. For "it is impossible for there to be different dispositions in different parts of matter qua bare matter." "But here, where the corrupt mass of humanity is concerned, it is possible through the gift of grace to the graced, for there to be different dispositions in one and the other," just as the inherence of forms in prime matter further disposes the

17. *Quodlibeta* VIII, q.5, fol.310r M.

matter to receive some forms and not others (see Part IV, chapter 15 above).[18] Some fallen individual human beings are so disposed that if they were offered certain assistance by God, they would respond by accepting it, while others are so disposed that they would respond by rejecting it. And such differences could provide God with a reason for actually extending the help to some and not to others.[19] Thus, "the example of clay, wooden, gold and silver vessels would have more force for the case at hand":[20] just as differences in clay, wood, gold, and silver give the artisan reason to make one sort of vessel out of clay and another out of gold, so differences in the above mentioned dispositions give God a reason to treat some fallen individual human beings differently from others. In Henry's opinion, (T6) is simply false.

Aquinas would doubtless agree that there are differences among predestinate and reprobate human beings, particularly with regard to their responses to offers of divine help. And he would allow that God eternally knows this. It is his contention, however, that such differences cannot constitute the basis for God's election of Peter and abandonment of Judas, because they are all effects of divine election and reprobation, respectively.

(2.2.2) Ockham, too, challenges Aquinas's endorsement of (T6). (2.2.2.1) First, he contends that not every difference between predestinate and reprobate human beings is an effect of predestination. Reasoning that

> ...the whole effect of predestination is incompatible, according to the ordained laws, with someone who exists in mortal sin. Therefore, nothing in anyone in mortal sin is an effect of predestination...[21]

he considers someone who is in a state of mortal sin and performs a good act—i.e., one that accords with the dictates of right reason. This good act is not an effect of predestination, by

18. *Ibid.*
19. *Ibid.*, fol.308v–309r H.
20. *Ibid.*, fol.310v N.
21. *Ord.* I, d.41, q.u, (OTh IV, 599–600).

the above argument. Nor is it a meritorious act, because a state of mortal sin implies, according to the ordained laws, the absence of inherent grace or charity that is necessary for an act to count as meritorious (see chapter 30 above). Thus, according to the Saints and the Doctors, the good act will not deserve or receive an eternal reward. Nevertheless, the fact that Peter was going to perform such an act and Judas was not, might provide God with a reason for electing Peter and abandoning Judas. Such acts may be said to fall in the category of "preparation for grace" and not grace, and so are not excluded from this role by virtue of being effects of predestination.[22]

Aquinas would have responded, and in any event it seems true, that the issue of whether or not to regard such an act as an effect of predestination is a red herring. What is important is whether or not it is an effect of divine choice. If it is, the earlier worries rearise, this time about the basis on which God causes such acts in some who sin mortally and not in others, and how his activity can be reasonable, just, and consonant with human free will. Aquinas would say that such good acts are just as much dependent on divine assistance as meritorious acts are, and there is nothing in human creatures, considered apart from divine aid, to explain why God causes some to perform them and not others. Ockham retorts that,

> His claim—that it can be done only by divine assistance—has no force. For not everything that can be done only by divine assistance is an effect of predestination. Nothing positive can be produced without divine assistance and yet not every such is an effect of predestination.[23]

Aquinas has said that God is the universal cause of every created effect. Hence, everything that any creature does trivially depends on divine assistance, in the sense that it depends on the concurrence of the universal cause. But if that is the only sense in which good acts depend on divine assistance, then the fact that they will be performed could still provide God a reason for

22. *Ibid.*, (OTh IV, 600).
23. *Ibid.*, (OTh IV, 600–601).

giving grace to some and not to others.

At issue here is just what the role of the universal cause is. If Aquinas believes that the universal cause is a sufficient mediate cause of all creatures, in that its activity is sufficient to set off a causal chain that inevitably results in the production of the created effect, then all acts alike depend on God's will. Nothing about what rational creatures could do or be in themselves, apart from such divine determination will provide God with a reason to set off one causal chain rather than another, because everything in creation is the product of divine determination. Ockham, by contrast, assumes that God is an immediate partial cause of every created effect (see chapter 22 above). Another immediate partial cause of a good act is the creature, who is not determined to actualize his potentiality for the good act as opposed to not doing so, by any causal chain started by God. The fact that Peter will freely perform such an act and Judas not thus does provide God with a reason independent of His own choices for making other choices.

(2.2.2.2) Second, Ockham argues that (T6) cannot be a description of God's actual policies. For

> ...if there were no reason but the divine will alone why this person is reprobate and consequently why eternal punishment is given to him, and why this person is predestinate and consequently why eternal life is given to him, no matter how equal they remain and no matter how much one does what the other does, nevertheless, one will be damned and the other saved and thus if one of them never sinned, he will yet be damned.[24]

Similar things can be said about the assignment of greater or lesser eternal punishments. If (T6) described the way things are according to the laws ordained by God, then we would expect to find God assigning different eternal destinies to people alike, not only with respect to their natures and their fallenness, but also with respect to their actual actions. But Aquinas would agree that this never happens. For his own part, Ockham thinks that it is possible that God should do this, with respect to His ab-

24. *Ibid.*, (OTh IV, 602).

solute power, but not with respect to His ordered power. For His actual policy is to assign eternal life and eternal punishment in most cases on the basis of foreseen free choices.

## 3. HENRY OF GHENT'S POSITION

Henry follows Augustine in maintaining that God does not owe grace or glory to any human beings or angels—whether innocent or fallen—as a debt. Even in a state of innocence,

> ...God could, with respect to His absolute power, immediately give grace and glory to one and nothing to another without doing him any injustice. For nothing was owed him as a debt. But He was merciful to each in distributing natural powers and still more merciful in conferring grace and glory. He could also give more grace or glory to one than another without any cause or reason in the recipient.[25]

Despite the fact that God does not distribute grace and glory according to desert, (T6) is still false because there is a certain fittingness or appropriateness about God's gift-giving. For "immediately upon their creation, [God] conferred grace on all human beings and angels, equally or unequally, depending on a reason that could be had in the recipient."[26] Henry cautions that there might be hidden features that give God reason for conferring different initial amounts and different increments of grace on particular creatures, and advises that we should not speculate on God's reasons in a particular case.[27]

After the fall, the whole human race deserved damnation. But God spares some and not others, "not by the prerogative of merit, nor by the necessity of fate, nor by the temerity of fortune, but because of His highest wisdom and knowledge..." According to Henry, God distributes benefits to adults before and after baptism on the basis of foreseen free responses to offers of divine help.[28] Henry thinks that fallen human free choice

25. *Quodlibeta* VIII, q.5, fol.308r E.
26. *Ibid.*
27. *Ibid.*
28. *Ibid.*, fol.308r F.

always sins—actually, if it is not distracted or prevented, or habitually when distracted and prevented. God takes the initiative to help sinners, first of all, by warning all of them. Whoever ignores the warning "makes himself unworthy of further assistance" and is justly hardened in his sin. But if someone heeds the warning, "a state of negative indifference" is produced in his will, whereby he does not actually will to sin even when he is not distracted or prevented from doing so.[29] It is appropriate for God to offer such a person a further gift of grace by which he acquires an imperfect hatred of sin and an inclination to desire a perfect will not to sin.[30] Whoever rejects this inclination deserves to be hardened in his sin, while whoever accepts it is thereby disposed to receive a further gift of grace that will cleanse him from sin. A positive response to the latter makes it appropriate for God to increase and then to perfect this grace. And cooperation with the perfected degree of that grace, by persevering in it to the end of one's life, makes it appropriate for God to give that person glory and eternal life.[31] "...And just as a particular use of free will is the reason for a part [of God's gift] so the whole use of free will throughout the whole life is a reason of the whole [of God's gift] and of eternal election as well..."[32] Hence, Henry maintains

(T10) (a) A foreseen good use of free will is a reason for predestination in the predestinate; and (b) a foreseen bad use of free will is a reason for reprobation in the reprobate.

Thus, Henry exonerates God of the charge of favoritism (thus preserving (T4)), because God is said to give everyone the same warning. But he also is able to retain (T5) created free choice and assign it a role in the redemptive process.

29. *Ibid.*, fol.308r G.
30. *Ibid.*, fol.308v G–H.
31. *Ibid.*, fol.308v H.
32. *Ibid.*

## 4. CRITIQUE OF HENRY OF GHENT'S OPINION

Henry hopes to preserve God's wisdom and avoid the consequence that created choices are determined by eternal and unobstructable divine ordinances by saying that the pattern of created free choices explains divine predestination (reprobation) and the distribution of divine grace rather than the other way around. Scotus challenges his solution on two counts. (4.1) First, while Scotus allows that God eternally knows contingent propositions such as 'Peter will cooperate with divine grace' and 'Judas will not cooperate with divine grace', the way He knows them excludes Henry's account:

> ...God foresees that this person will use his free choice well only because He wills or foreordains that he will use it well. For as was said in distinction 39, certain foresight of future contingents is based on the determination of His will. Therefore, if two equal in all of their natural features are presented to the divine will, I ask why He foreordains that this person will use free choice well and that one not. There seems to be no reason for this but the divine will, and this is the first distinction between them, which distinction you say election or reprobation follows. Therefore, the first distinction [among rational creatures] relevant to predestination and reprobation has its sole reason in the divine will.[33]

Henry's explanation of why divine election and reprobation are not arbitrary and incompatible with created freedom depends on the assumption that it is not divine free choice but created free choice that—in the first instance—makes 'Peter will cooperate with divine grace' and 'Judas will not cooperate with divine grace' determinately true. According to Scotus's explanation of how God knows future contingent propositions, however, the reverse is true (see chapter 27 above). Hence, the question of divine arbitration in election or reprobation will reappear as one about why God makes 'Peter will cooperate with divine grace' and 'Judas will not cooperate with divine grace' true rather than 'Judas will cooperate with divine grace'

33. *Ord.* I, d.41, q.u, n.36, (Vaticana VI, 330–31)

and 'Peter will not cooperate with divine grace'.

Presumably Henry would join Ockham in rejecting Scotus's account of how God knows contingent categorical propositions about created free choice. What Henry requires God to know, however, is not propositions of the form 'Judas will reject divine grace' and 'Peter will accept divine grace', however. For suppose it is something about the future creature that, in the first instance, makes such propositions true. Still, casting the point in terms of Scotus's distinction of instants of nature, any instant of nature in the divine deliberative process at which it is settled that Judas will reject divine grace is one at which it is already settled that the offer of divine grace will be made. Hence, God cannot use His knowledge of 'Judas will reject divine grace' to decide whether or not to offer grace to Judas. Rather the viability of Henry's account depends on assigning God knowledge of subjunctive conditional propositions of the form 'If Judas were offered grace, he would reject it' and 'If Peter were offered grace, he would accept it', and on assuming that it is some feature of future (possible) creatures and not divine choice that, in the first instance, makes such propositions true. We shall return to this issue in section 10 below.

(4.2) Further, Scotus objects that Henry's solution is not comprehensive because it does not apply to "infants in whom God does not foresee a good or bad use of free choice."[34] Nor can it be adapted—in the spirit of (T10)—to cover the case of infants by saying that

> even if [God] does not foresee, nevertheless, He foresees that this one would have used it well if he had survived and that one would have used it badly if he had survived, and for that reason He led this one to baptism and not that one and will save this one and damn that one...[35]

For Henry himself has rejected this line of reasoning, contending that if it were allowed

34. *Ibid.*, n.37, (Vaticana VI, 331).

35. *Ibid.*, n.38, (Vaticana VI, 331); cf. Henry, *Quodlibeta* VIII, q.5, fol.309rv L.

> by the same token, glory would not be conferred on adults according to the grace they had at death, but according to the good use [they would have made] of free choice if they had survived.[36]

This would be tantamount to replacing (T10) with

(T11) (a) The cause of predestination in the predestinate is the good use of free will they would have had if they had survived longer, and (b) the cause of reprobation in the reprobate is the bad use of free will they would have had if they had survived longer.

Apparently, Henry and Scotus do not find (T11) unreasonable because they think subjunctive conditionals of the form 'if $x$ had survived longer, $x$ would have made a good use of free will' and 'if $x$ had survived longer, $x$ would have made a bad use of free will' lack truth-value, where $x$ is a creature that is actual at some time or other. If they had denied them truth-value, that consideration would have been enough to reject the proposal about infants and the analogy with adults would not have been brought in. Although neither philosopher explains himself, the following argument could be offered in their defense. Any rational creature that can survive longer than he actually does, can presumably survive indefinitely. Further, given the actual order of redemption, most such creatures pass into and out of a state of grace and back again as they receive sacraments and commit mortal sins and repent, etc. Thus, for each rational creature, it seems that there would be some moments of possible survival at which he would have been in a state of grace had he survived until then and others at which he would have been in a state of mortal sin. If rational creatures are to be evaluated for salvation or damnation, not at the actual moment of their death, but at some moment of possible survival, which one shall we pick? There is no more reason to pick one than the other. Since it is impossible to choose them all (as this would assign conflicting eternal destinies), it seems that none should be chosen and the

36. *Ibid.*, fol.309v L; Scotus, *Ord.* I, d.41, q.u, n.38, (Vaticana VI, 331).

actual moment of death should be preferred.

In Henry's opinion, Aquinas's theory

> ...seems more reasonable for infants who die before they were able to use their free choice, because there neither is nor can be any difference regarding the use of free choice, and they were equal so far as the vice of the mass [of perdition] is concerned. For among such infants, some are elect and receive grace, either through the faith of their parents in the natural law, or through circumcision to the law of Moses, or through baptism in the law of the Gospel, or in none of these ways but through some other sanctification, whether inside or outside the womb. And those who die before the age of puberty are immediately transferred to glory, and the others who are reprobate and die before the age of puberty [receive grace] in none of the above mentioned four ways and remain in their just damnation. And the only reason for this seems to be the above mentioned extrinsic reason—viz., the manifestation of God's goodness in the way explained...[37]

With Aquinas, Henry would have to allow that God's choice among infants is arbitrary, and hence that (T4) does not apply to it, although it is not unjust, because grace and glory are owed to no rational creature, fallen or unfallen, as a debt.

## 5. SCOTUS'S POSITION

Scotus's own position seems to hybridize that of Aquinas and Henry of Ghent. For, on the one hand, he maintains that

(T6a) There is no cause of predestination in the predestinate,

and defends it with the following argument from the priority of ends over means:

(i) When one wills the end and those that are ordered to the end, one first wills the end and then those that are ordered to the end.

37. *Quodlibeta* VIII, q.5, fol.309r L.

(ii) The last end of a rational creature is perfect happiness.

(iii) Therefore, God first wills the end for a possibly happy creature and later wills the means to that end. (i and ii)

(iv) Grace, merit, and the good use of free will are means to this end (although some are more proximate means than others).

(v) Therefore, God wills happiness for a person prior to willing any of the others, and He wills them for this person prior to foreseeing that He will have them. (iii and iv)

(vi) Therefore, He does not will happiness for anyone because He foresees that he will have grace, merit, or good use of free will. (v)[38]

On the other hand, Scotus holds

(T10) A foreseen bad use of free will is a reason for reprobation in the reprobate,

arguing that

(vii) Damnation is good only if it is just.

(viii) It is not just to punish if there is no preexisting guilt in that person.

(ix) Therefore, God does not will to punish anyone prior to willing that person to be a sinner. (vii and viii)

(x) Therefore, God does not will to damn Judas insofar as Judas is considered in himself together with his natural features, but only insofar as Judas is presented as a sinner. (ix)

38. *Ord.* I, d.41, q.u, n.41, (Vaticana VI, 332–33).

(xi) Therefore, reprobation has a basis in the reprobate: the foreseen sin of final impenitence. (x)

If perfect happiness is a good so great that no creature can deserve it, eternal punishment is a destiny so bad that a good and just God will not award it apart from desert.

## 6. CRITIQUE OF SCOTUS

Not surprisingly, both parts of Scotus's position were subjected to criticism. (6.1) First, it was asked whether Scotus's argument for (T6a) should not have led him to prefer (T6b) to (T10b). For, applying premiss (i) to predestination, Scotus maintained that God's willing the end—happiness—is naturally prior to His willing of the means—among others, a good use of free will.

> ...Consider Peter and Judas, equal so far as their natural features are concerned and willed to exist by God, in the instant in which they are presented to the divine will as equals in their natural existence. According to you, God first wills happiness for Peter. I ask what He wills for Judas then? If damnation, my contention—that He therefore reprobates someone without a reason—is established. If happiness, then He predestines Judas.[39]

Given (T1) and (i), it seems that God must will some end for Judas; and by (T2), that volition is efficacious. Hence, it cannot be (on traditional assumptions) that God wills happiness for Judas. But if, by (i), He wills the end of damnation prior to willing the means—a bad use of free will—then it seems that Scotus is committed to

(T6b) There is no cause of reprobation in the reprobate,

after all.

(R6.1) Scotus's answer to this objection depends on his

39. *Ibid.*, n.44, (Vaticana VI, 333–34).

doctrine that in the now of eternity there are many instants of nature. While (T1) implies that God eternally wills reprobation for the reprobate, it does not require that He do so in the first instant of nature. Scotus's own view is that where the reprobate are concerned, God does not at first will anything for them, but abandons them to life without divine aid. Thus, at $n_1$, God wills glory for Peter and does not will anything for Judas. At $n_2$, He wills grace for Peter and still does not will anything for Judas. At $n_3$, He wills to permit each of Peter and Judas to be included among "the mass of perdition" that deserves damnation. Given that He has not willed grace and glory for Judas, this permission at $n_3$ is enough to make the proposition 'Judas will be a sinner to the end' true. Thus, at $n_4$, Judas is presented to God as someone who will be a sinner to the end, and God wills justly to punish and reprobate him.[40] The objector assumes that the order of divine volitions will be alike for predestination and reprobation. But Scotus replies that

> No one should be amazed that [I] do not assume similar processes for predestination and reprobation, because everything good is attributed chiefly to God, but evils to us...[41]

That God should predestine without a reason suits His goodness and generosity. But justice requires that He not damn anyone who does not die in a state of mortal sin.[42]

(6.2) Scotus's clarification of his position raises the question of whether he is in any better position to endorse (T10b) than he thought Henry of Ghent was, however. Recall that Scotus contended against Henry that (T10b) presupposes the existence of some differences among creatures prior to and independently of divine volition, which differences can motivate divine election and reprobation. Yet, on Scotus's own account,[43] God starts with Peter and Judas, equal in natural features and fallenness. Left to exercise their own free choice in this condition,

40. *Ibid.*, n.45, (Vaticana VI, 334).
41. *Ibid.*, n.46, (Vaticana VI, 334).
42. *Ibid.*
43. *Ibid.*, n.45, (Vaticana VI, 334).

both would sin to the end and deserve reprobation. The first difference between them is that at $n_1$ God wills glory for Peter and at $n_2$ grace that is the means to that end, and does not will these things for Judas. How, then, can Scotus consistently hold (T10b) and retain (T4)?

(R6.2) To appreciate Scotus's response to this difficulty, we must reexamine what the project of looking for reasons for predestination and reprobation amounts to. 'Reason' in (T10) and 'cause' in (T6) could mean some feature of a creature by virtue of which he deserves, by the canons of justice, eternal life or eternal punishment, respectively. Henry concedes that no creature—whether fallen or unfallen—*is owed* eternal life as a debt, and hence that there is no reason for predestination in the predestinate in that sense. Likewise, he agrees that all fallen human beings alike *deserve* damnation or reprobation by the canons of justice. Hence, there is a reason for reprobation in the reprobate in that sense. Nevertheless, these considerations of justice are not the reasons which explain (what revelation tells us is) actual divine behavior: the saving of some as opposed to others from this "mass of perdition." When Henry endorses (T10), he means to assert, not that there are reasons of justice, but that there are features of creatures that make *appropriate* or *fitting* for God to elect these and abandon those. When Scotus argues that Henry is not entitled to (T10), it is on the ground that there cannot be any such reasons of appropriateness, since the first difference among fallen human beings depends on divine choice.

By contrast, Scotus understands 'reason' in (T10b) the first way. Endorsing it, he does not renege on his insistence that nothing in Peter or Judas explains why it is appropriate for God to predestine Peter rather than Judas. At best, there is the extrinsic reason that God loves Peter and does not love Judas.[44] And Scotus denies with Aquinas that God's "playing favorites" in distributing goods to which none of the potential recipients has any rightful claim, is morally objectionable in any way.[45] As his

44. *Ibid.*, n.46–47, (Vaticana VI, 334–35).
45. *Ibid.*, n.53, (Vaticana VI, 337).

argument for (T10b) makes clear, his assertion of it merely reflects the claim on which he and Henry agree—that fallen human beings have features which give God reasons of justice for condemning any or all of them, and these reasons justify His abandonment of those whom He actually reprobates.

(6.3) Still, it seems doubtful whether Scotus's assertion of (T10b) and his accompanying account of predestination and reprobation, can be reconciled with his critique (in section (4.1) above) of Henry. For Scotus drew there on his account in distinction 39 of how God knows contingent propositions, according to which all contingent propositions—and hence all propositions about created choices—are made determinately true by divine free choice. But, as one of Scotus's own objectors notes, the mere fact that God permits an act and is certain that He permits the act, does not make him certain that the act will occur. For there is still the question of whether the efficient cause, which has been given permission by God to act, will in fact act. Therefore, the mere fact that God wills to permit Judas to sin, does not make it certain that Judas will will to sin.[46]

The objector realizes that Scotus could deal easily with this example by appealing to the fact that human nature is fallen, from which it follows that any human being will sin to the end unless aided by divine grace. God does not need to know more than this, together with the fact that He has not willed to give grace to Judas, to know that Judas will sin to the end. Nevertheless, the same difficulty can be raised about the reprobation of angels, who are not fallen as a race. God's certainty that He permits Lucifer to sin will not suffice to make Him certain that Lucifer will sin.[47]

(R6.3) Scotus replies that, in his considered opinion, God's knowledge of divine permission is not enough. Where sins of commission are concerned, He knows also that He will cooperate with the substance of the act which will be a sin and not with the circumstances—that it be an act of the appropriate intensity, that it be done at the right time and place and in the

46. *Ord.* I, d.41, q.u, n.48, (Vaticana VI, 335).
47. *Ibid.*

right way—necessary for it to count as a good act. Where a sin of omission is concerned, God knows not only that He permits the omission, but also that He will not cooperate in the production of the substance of the act.[48]

(RR6.3) Does this response succeed in preserving (T4) and (T10b), on the one hand, and Scotus's account of the certainty of divine foreknowledge on the other? To see that it does not, let us examine the process of reprobation for Lucifer. At $n_1$ both Lucifer and Michael are presented to the divine will in their purely natural powers. Since angels are not fallen as a race, nothing about them as such makes them deserving of damnation. Nevertheless, at $n_1$, God loves Michael and not Lucifer and wills glory for Michael and does not will it for Lucifer; and at $n_2$ wills grace for Michael and does not will it for Lucifer. At $n_3$ God wills to permit each to sin. In the parallel sequence for Judas, Scotus concluded that what had happened up through $n_3$ was enough to make 'Judas will sin to the end' determinately true, apparently because of Judas's fallen nature. But Scotus has said that with Lucifer this fact is replaced with the fact that God wills to cooperate with the substance of the act but not with the circumstances (where sins of commission are concerned). Either 'God has not willed grace and glory for Lucifer and God has willed to permit Lucifer to sin and God has willed to cooperate with the substance of Lucifer's act but not with the circumstances needed to make it a good act' entails 'Lucifer will sin,' or not. If not, but another premiss asserting that the created efficient cause actually acted is needed, then there is a difference among creatures that is left to the initiative of the creatures themselves and Scotus can retain (T4) and (T10b), but he jeopardizes his claim that God knows contingent propositions because His will makes them determinately true. If the entailment holds, then Scotus's account of the certainty of divine foreknowledge is preserved, but then all the differences among creatures seem to come—in the first instance—from God and (T10b) is sacrificed. Likewise, (T4) divine justice is called into

48. *Ord.* I, d.47, q.u, n.10, (Vaticana VI, 384–85).

question, since Scotus says it is unjust to damn anyone without some prior desert in the person damned.

Scotus's vacillation as to whether 'God has not willed grace and glory for Lucifer and God has willed to permit Lucifer to sin and God has willed to cooperate with the substance of Lucifer's act but not with the circumstances needed to make it a good act' entails 'Lucifer will sin,' is further illustrated in distinction 40, where he is discussing (T2) and whether or not the predestinate can be damned. Scotus replies first that since the divine will's direction to creates is always contingent, "God contingently predestines the one whom He predestines, and can not predestine him—not that He can do both at once or successively, but each taken by itself, in the instant of eternity."[49] But is it within the power of the created will not to follow that divine determination—i.e., is (T2) true? Scotus at first suggests that it is:

> ... a predestinate person can be damned. For his will is not confirmed (*confirmata*) by reason of his predestination. Thus, he can sin and, by parity of reason, can commit the final impenitence and thus be justly damned. But just as he can be damned, so he can *not* be predestinate.[50]

On the other hand, when an objector argues that

> ...if someone predestinate can be damned, this would only be by his own act. Therefore, an act of the divine will can be obstructed by an act of a created will—which is impossible.[51]

Scotus insists that

> ...a created will cannot obstruct what the divine will has ordained. For obstruction occurs only when the proposal of the divine will is given and the opposite comes to pass through some other will. This is impossible, however. For just as a created will can deserve damnation, so also it can concomitantly follow that the divine will did not foreordain

49. *Ibid.*, d.40, q.u, n.5, (Vaticana VI, 310).

50. *Ibid.*, n.6, (Vaticana VI, 310); cf. *Lectura* I, d.40, q.u, n.5, (Vaticana XVI, 511–12).

51. *Ord.* I, d.40, q.u, n.2, (Vaticana VI, 309).

> it to glory....Thus, just as it was said in the preceding distinction [39] (in resolving the first argument of the second question) that God cannot be mistaken, because His understanding of something is incompatible with the opposite of what He understands; so also His will cannot be obstructed, because His ordaining of something cannot stand together with the opposite of what He ordained.[52]

This reply suggests that the will by which God predestines Peter to grace and glory is His unobstructable, consequent disposing will—which preserves (T2) and Scotus's account of divine foreknowledge at the expense of (T10b) and (T4).

(6.4) Scotus cites a further objection, which rightly takes him to be saying that God takes the initiative in predestination—in that He wills grace and glory for Peter—while the creature takes the initiative in reprobation—in that God merely permits Judas to sin and lets fallen human nature take its course. Thus, His act of predestining Peter is a positive act. But what is the act of reprobation? If it, too, is a positive act of divine will with respect to the sin, it seems that God wills Judas to sin and takes the initiative after all. If it is not a positive act with respect to sin but with respect to permission, then it is a reflex act. And we must ask what act the permission is. If it is a positive act of will, then God has a positive act with respect to the sin that He permits.[53]

(R6.4) Scotus thinks that the issue of whether divine reprobation is a positive act is irrelevant to whether God takes the initiative in reprobation. To show this, he invites us first to consider some distinctions that apply to the human will. In us, there are two kinds of positive acts of will—willing (*velle*) and willing-against (*nolle*)—which, if directed towards the same object, are contraries. An efficacious willing is such that if it can posit the willed object in existence immediately, it does so. An efficacious willing-against not only obstructs something, but destroys it completely. By contrast, reduced acts do not posit or destroy their objects, respectively, even when it is within the

52. *Ibid.*, n.10, (Vaticana VI, 312–13); more vaguely in *Lectura* I, d.40, q.u, n.10, (Vaticana XVI, 513).

53. *Ord.* I, d.41, q.u, n.49, (Vaticana VI, 335–36).

agent's power to do so. In us, a reduced willing-against is a permission of known evil.[54]

Scotus offers two alternative ways of applying these distinctions to God. (a) One could say that just as His single act is both an act of willing some objects and willing-against others, so it is an efficacious willing of some and an efficacious willing-against others, a reduced willing of some and a reduced willing-against others. This way divine permission could be identified with the positive act of willing against objects that He wills not to prevent. (b) Alternatively, one could find the following process in God's deliberations: at $n_1$, He considers the prospect of this person sinning, and He does not will anything concerning it; at $n_2$, He understands that His will does not will anything here; and at $n_3$, He wills that He not will anything concerning it and so voluntarily permits it. In the first case, divine permission is a direct act; in the second, a reflex act. Either way it is a positive act, but neither way does it commit one to the thesis that would be inconsistent with (T10b) as Scotus understands it: viz., that divine permission is logically sufficient for sinning.[55]

(6.5) The first objection maintained that Scotus's adherence to premiss

(i) Where one wills the end and those that are ordered to the end, one first wills the end and then those that are ordered to that end,

is inconsistent with (T10b), but would rather yield (T6b). And his attempts to rebut that charge have called into question his own account of God's knowledge of future contingents and consequently his attack on Henry's adherence to (T10b). Henry of Harclay and Ockham challenged the application of (i) even to the case of predestination, however. Henry explains that the classification of something as means or end is agent-relative. Where $x$ wills $A$ and $B$ for $y$, it may be $x$'s goal to get $B$ and $x$ may regard $A$ for $y$ as a means to $B$ for $y$. But $y$ may have the goal

54. *Ibid.*, d.47, q.u, n.4–5, (Vaticana VI, 382).
55. *Ibid.*, n.7–8, (Vaticana VI, 383).

to get *A* and getting *B* may be for *y* the means of getting *A*. Suppose, for example, that a prince promises a knight a castle if he will fight a battle and the knight agrees. The knight's end is to get the castle, and for him fighting is the means. But the prince's end is that the knight should fight the battle, and promising the castle is his means to that end; likewise, between God and free rational creatures means and end are reversed.[56]

Following conventional usage, Ockham assumes that the end of any rational creature is happiness. But he thinks (i) is false because the order in which means and end are appropriately willed is agent-relative.

> ...one who wills his own end and those things that are ordered to that end in an orderly fashion, wills the end first. But it is not necessary that someone who wills someone else's end and those that are ordered to the end in an orderly fashion, wills its end before what is ordered to the end. But now the happiness that predestination has to do with is not the end of God who predestines, but the end of the predestinate person. Therefore, it is necessary that the predestinate person who wills the end and those that are ordered to the end, will his own happiness before anything that is ordered to the end. But it is not necessary for God to will the end of the predestinate person before willing those that are ordered to the end.[57]

Hence, Scotus's principal argument for (T6) is unsound.

(6.6) Harclay charges that Scotus's defense of (T10b) is unsound as well, based as it is on premiss

(viii) It is not just to punish anyone if there is no preexisting guilt in the person.

For Harclay writes,

> ...there can be no argument here against God's justice, even if He put

56. "Utrum in praedestinato sit aliqua causa praevisa a Deo quare iste sit praedestinatus et ille reprobatus?" in "Henry of Harclay's Questions on Divine Prescience and Predestination," ed. Mark Henninger, *Franciscan Studies* N.S. XL (1980): 167–243, in sec.40, 240.

57. *Ord.* I, d.41, q.u, (OTh IV, 609); cf. (OTh IV, 604).

> Peter in hell, because His will is the rule of all justice. Therefore, whatever it is possible for Him to will, He can will justly—i.e., He can will it with respect to His absolute power. For He can do it; therefore He can will to do it. Therefore, when he argues, 'He produces only just evil,' I agree. But no other rule of justice than His will is to be sought. But His justice cannot be measured by our justice that is between man and God and a man and his neighbor.[58]

We have already seen in chapter 30 how Ockham would agree with Harclay that God is a debtor to no one, and whatever He does is justly done,[59] and that with respect to His absolute power, He can punish a creature without any demerit and reward a creature without merit, without any injury to the person[60] and even "if someone were to love God and do all the works accepted by God," "He can give him, not eternal life, but eternal punishment without injury."[61] But Ockham would not take these facts to vitiate Scotus's argument as a defense of (T10b). For (viii) does express what is law by actual divine institution, and hence can sustain the conclusion that as a matter of fact there is a reason for reprobation in the reprobate. There is no reason why God's actual policies should accord with (viii), however, other than that this is what He wants, all things considered.

## 7. OCKHAM ON THE CAUSES OF PREDESTINATION AND REPROBATION

Ockham agrees that the theological thesis that

> (T1) From eternity, God immutably chose some rational creatures (the elect) to order to eternal life (to predestine) and rejected others thereby abandoning them to eternal punishment.[62]

58. Harclay, *op. cit.*, in Henninger, *op. cit.*, sec.27, 236.
59. *Quaest. variae,* q.1, (OTh VIII, 23–27); *Rep.* IV, q.3–5, (OTh VII, 45).
60. *Ibid.*, (OTh VII, 46–56).
61. *Ibid.*, (OTh VII, 55).
62. *Ord.* I, d.40, q.u, (OTh IV, 594, 596–97).

Likewise, he maintains that

(T2) Divine predestination (reprobation) is certain and unobstructable.

For he maintains that

> ...the noun 'predestination' (or the concept), whether taken in the active or in the passive sense, signifies not only God Himself who will give eternal life to someone but also the person to whom it is given. Thus, it signifies three things: God [who will give eternal life to someone], eternal life, and the person to whom it is given. Similarly, 'reprobation' signifies God who will give eternal punishment to someone, [eternal punishment, and the person to whom it is given].[63]

In Ockham's view, the propositions 'Peter is predestinate', and 'God predestined Peter from eternity', and 'God will give eternal life to Peter on Judgment Day' are all equivalent, as are 'Judas is reprobate', 'God reprobated Judas from eternity', and 'God will give eternal punishment to Judas on Judgment Day'. Hence, he holds that "the truth of 'God predestined Peter' is inconsistent with the truth of 'Peter is damned'."[64] And the will by which God predestines Peter and reprobates Judas is evidently His unobstructable, consequent disposing will (see chapter 28 above):

> ...An act of the divine will is not obstructed by an act of a created will, unless something opposed to a standing divine ordinance were to occur as a result of some other will, in which case 'God has predestined Peter' and 'Peter is damned as a result of his own will' would be true at one and the same time. But they cannot hold good at one and the same time, since if 'Peter is damned because of an evil act of his own will' is true, then 'Peter is predestinate' was never true. Similarly, if 'Peter is damned' is true, then 'Peter was preordained to eternal life' was never true.[65]

63. *Predestination, God's Foreknowledge, and Future Contingents*, Assumption 1, (Adams and Kretzmann trans., K, 45), (OPh II, 514).

64. *Ibid.*, q.1, Reply to obj.3a, (Adams and Kretzmann trans., D, 40), (OPh II, 510).

65. *Ibid.*, Reply to obj.3, (Adams and Kretzmann trans., D, 40), (OPh II, 510).

Likewise, Ockham endorses

(T4) God does not play favorites,

because—on his understanding—"it can be said that He plays favorites, only when the persons are equal and something is owed to each and conferred on one and not the other." Ockham agrees with Harclay that "God is in no way a debtor to anyone" and concludes that "therefore, He cannot play favorites."[66] That there is any order of salvation at all and that (T3) is one of its laws, is entirely a matter of divine free choice. No creature is intrinsically worthy of eternal life or punishment, but it is only by divine institution. Hence, God owes it to no one, although He distributes it according to certain revealed policies (see chapter 30 above).

So far as the actual divine ordinances are concerned, Ockham concurs with Augustine that "God is not a punisher before man is a sinner," and he complains that this should have driven Scotus to make an analogous claim regarding predestination.[67] Likewise, in the previous distinction, Ockham assumes that "eternal life is conferred on an adult only because of some meritorious deed," while "no one is condemned to perpetual punishment—i.e., sensory punishment—except by reason of his own demerit."[68] If so, Ockham seems to be reverting to Henry of Ghent's endorsement of

(T10) (a) A foreseen good use of free will is a reason for predestination in the predestinate; and (b) a foreseen bad use of free will is a reason for reprobation in the reprobate.

Since foreseen free choices are the actual basis of predestination and reprobation, (T5) seems to be preserved as well.

Is this a correct diagnosis of Ockham's position? The answer

66. *Ord.* I, d.41, q.u, (OTh IV, 608).
67. *Ibid.*, (OTh IV, 604).
68. *Ibid.*, d.40, q.u, (OTh IV, 593–94).

is that it is not, for two reasons: (i) first, Ockham does not understand (T10) the way Henry of Ghent does. For the latter assumes that there are some standards of justice independent of God's actual policies in electing and reprobating, relative to which any fallen human being deserves eternal punishment. The reasons mentioned in (T10) are not, as we have seen, reasons of justice but reasons of appropriateness. And foreseen free choices make it appropriate for God to show mercy to some adults and not others. By contrast, Ockham thinks that nothing has the property of being either worthy of eternal life or worthy of eternal punishment prior to and independently of God's actual policies in predestination and reprobation. Nevertheless, since actual divine ordinances establish the standards of justice in the distribution of eternal life and eternal punishment, the reasons referred to in (T10) are reasons of justice and not mere appropriateness.

(ii) Second, despite suggestions to the contrary, Ockham is prepared to endorse only (T10b) and not (T10a) as a general truth. For "there is a cause of reprobation" in every case—viz., that the reprobate person will sin to the end of his life.

> There seems to be more doubt about predestination, however. In connection with this, it can be said without prejudice [to a better opinion] and assertion that there is a cause and a reason in some cases of predestination and not others. The explanation for this is that some will be saved because of their merits, in such a way that if they had not voluntarily earned merit, they would not be saved. Some, however, are ordered to eternal life by a special grace, in such a way that they are not left on their own the way others are, but are prevented from putting any obstacle [to their having] and are prevented from losing eternal life. This is the way it was, for example, with the Blessed Virgin and certain others: divine grace prevented them from sinning and losing eternal life.[69]

In the first sort of case, persons are predestined "because it is foreseen that they will persevere in charity to the end, and God would not confer eternal life on them unless they first merited

69. *Ibid.*, d.41, q.u, (OTh IV, 606).

eternal life.[70] In the second sort of case, however,

> there seems to be no reason why they are predestined except that God wills it, so that whatever He gives them, He gives them in order that eternal life may follow, and He does not permit anything in them that could be an obstacle to their eternal life.[71]

Eternal life for certain people—such as the Blessed Virgin—figures so centrally in the way God actually wants things to go that He ordains them to that end quite apart from any foreseeable feature intrinsic to them for which they are responsible. Thus, Ockham is suggesting that

(T10a′) In some cases, foreseen good use of free will is a reason for predestination in the predestinate; and in other cases, there is no reason for predestination in the predestinate, but they are predestined simply because God wants to give them eternal life,

replace (T10a) as a description of God's actual policy. Further, Ockham maintains,

(T13) There is no reason why God predestines these particular persons without a reason for predestination in them, and those particular persons because of some such reason, except that He wants to do so,[72]

just as there is no reason in St. Paul why God converted St. Paul apart from any prior merit instead of someone else,[73] or why some persons are sanctified before their birth and others not.[74] (T3) still holds as a general rule, because God always preserves those whom He predestines without a reason in them, in a state of grace until the end of their lives. But what about (T5)? If fore-

70. *Ibid.*, (OTh IV, 607).
71. *Ibid.*
72. *Ibid.*
73. *Ibid.*
74. *Ibid.*, (OTh IV, 608).

seen good use of free will is not the reason for predestination in such cases, and if (T2) divine predestination is certain and unobstructable, and if, by (T3), the person is always preserved in a state of grace, then it seems that the person is not free to commit a mortal sin and hence that (T5) fails.

Ockham wrestles with the question of how the Blessed Virgin can be at once impeccable and capable of meritorious (and hence free) action in *Reportatio* III, q.5. His first suggestion is that God insures her impeccability with respect to sins of commission by regularly cooperating with her to produce good or virtuous acts and withdrawing His cooperation from bad or vicious acts. Since no created cause can produce anything without divine cooperation, the Blessed Virgin will not perform any sinful acts. Still (T5) is preserved, because she is free to will or not will a good act, even though she is not free to elicit a bad act.[75] Further, she can act meritoriously, because she is free to select from a variety of good acts.[76]

If this account explains how the Blessed Virgin can be preserved from sins of commission, it seems to leave her capable of sins of omission. For by ceasing to elicit a good act that she is obliged to perform, she thereby omits something that she was obliged to produce. How, then, is she altogether impeccable? Ockham suggests that the Blessed Virgin never fell into a sin of omission, because if ever she had ceased to continue an act that she was obliged to perform—as she was free to do—then God would have acted to continue that act in her.

Insofar as Ockham is out to explain how the Blessed Virgin can be both impeccable and yet free and capable of meritorious action, it may be objected that the latter supplement fails on both counts. Taking the items in reverse order, if God acts alone to preserve the act in existence, how is *it* meritorious? Ockham replies that more than one line is available here. One could say that that act conserved by God acting alone is not meritorious. Nevertheless, since she is free to will to continue the act or not, if she did continue it, that would be meritorious. Alternatively,

75. (OTh VI, 153).
76. *Ibid.*, (OTh VI, 153–54).

one could say that for an act to be meritorious, it is not necessary that the creature be a partial cause in the production of the act; it is enough if the creature is free to cease from it. But if the Blessed Virgin willed to cease from the above mentioned act ($a_1$) and to replace it with another good act ($a_2$), God would cease conserving the first act ($a_1$) and cooperate with her in the production of that other good act ($a_2$). Since she is thus able to cease from $a_1$, even though it is conserved by God acting alone when she ceases to elicit it without willing to replace it with another good act, her continuance in that act would be meritorious by the above mentioned more lenient standard. Either way, (T5) is compatible with her impeccability, because she is always free to choose among a variety of good acts.[77]

Second, we may ask whether Ockham's supplementary account really explains how the Blessed Virgin is impeccable in this case. For even if *God* acts alone to continue the required good act, this does not change the fact that *she* has ceased to elicit it at a time when she was obliged to do so. The mere presence of the act does not erase her sin in omitting to perform it. And the above suggestion—that $a_1$ is meritorious for the Blessed Virgin, even when God acts alone to conserve it, because she has the power to replace it with a different good act—seems mistaken.

Responding to this, Ockham draws on his view that a creature's particular obligations to God are entirely a matter of divine choice. God could preserve the Blessed Virgin's impeccability in ceasing to elicit $a_1$ simply by ordaining that she does not sin, even if she does not elicit a meritorious act,[78] or He may have ordained that "when she elicited a good act, she earned merit, but when not, then He ordained that she was not obliged to act meritoriously."[79] This solution would have a general application, since it could insure her impeccability by the absence of divine commands binding on her and thus make it unnecessary to explain it further in terms of divine determination

77. *Ibid.*, (OTh VI, 153–54).
78. *Ibid.*, (OTh VI, 156).
79. *Ibid.*

of her choices to conform to them.

## 8. CRITIQUE OF OCKHAM ON THE CAUSES OF PREDESTINATION

Ockham sees that those who agree with him against Scotus that there are reasons for predestination in the predestinate person, may still attack his position on both its points of agreement with and its divergence from (T10a). (8.1) First, someone might charge that it is wrong to identify the reason for predestination with the agent's own merit. "For if he never had had merits and had existed without original and mortal sin, he would have been saved. Therefore, he is not saved because of merits."[80]

(R.8.1) Ockham replies that

> ...although this person would have been saved if he had died immediately after baptism, he was predestined because of merits. Rather from this it follows that He could have been predestinate and not because of merits. This is true and is not incompatible with what was said above.[81]

When Ockham speaks of reasons for predestination in the predestinate, he means the reasons that God *actually* has in predestining him. That in other circumstances God could have had other reasons for predestining him, in no way alters the fact that he was predestined because of foreseen merit.

Nevertheless, Ockham's answer suggests a defect in his formulation of (T10a'). For if there are people who do not die immediately after baptism but earn merit and persevere in grace to the end and are for that reason predestined, surely there are a few people who *actually* die immediately after baptism and before they have a chance to earn merit or fall into actual sin. Ockham appears to grant that according to God's existing policies, such a person would receive eternal life. But God's actual reason would not be foreseen merit in this case. On the

80. *Ord.* I, d.41, q.u, (OTh IV, 607–608).
81. *Ibid.*, (OTh IV, 608).

other hand, it does not seem that God predestines such people without any reason at all. Where adults are concerned, their action in seeking baptism might count as a reason, even if the action itself is not meritorious because the agent is not then in a state of grace (see chapter 30 above). Here foreseen good use of free will would be a reason for predestination in the predestinate, as Ockham himself suggests in his criticism of Aquinas (see section (2.2.2) above). In the case of infants, the reason would not lie in some feature of the infant itself but in a good use of free will by the person who brought it to baptism; for God is supposed to have a general policy of saving baptized infants who die before the age of reason because of the merits of others who bring them to the sacrament. Thus falling under a general policy, the predestination of infants does not seem to be simply a matter of God's wanting them to have eternal life, any more than the predestination of Peter is simply a matter of God's wanting him to have eternal life (although ultimately that anyone is saved is simply a matter of God's wanting it). And just as, in advancing (T10), Henry of Ghent has not had the case of infants in mind, so Ockham with his replacement (T10a').

(8.2) A second objector grants Ockham that foreseen good use of free will and/or merit is a reason for predestination in the predestinate, but denies the need to make any exception for the Blessed Virgin. Rather "the Blessed Virgin was saved because of her merits; therefore it was a cause of her predestination as much as it was the cause of the others."[82]

(R8.2) In his terse discussion in *Predestination, God's Foreknowledge, and Future Contingents*, q.4, Ockham simply concedes this objection.[83] But in the *Ordinatio*, he grants that the Blessed Virgin did in fact earn merit and die in a state of grace, just as Peter did. Nevertheless, the fact that two predestinate persons share a feature *F* does not make *F* God's reason for predestining them; and the fact that *F* is God's reason for predestining the one does not prove that *F* is God's reason for predestining the other. And these facts about the Blessed

82. *Ibid.*
83. (Adams and Kretzmann trans., 77), (OPh II, 537).

Virgin were not—as revelation discloses—God's actual reasons for predestining her (although they could have been if God's desire had been different) the way Peter's foreseen good use of free will and meritorious action were God's actual reasons for predestining him. Rather the reverse is true: God's desire to give the Blessed Virgin eternal life is His reason for acting and ordaining things that guarantee her impeccability.

(8.3) Further, against Ockham's tentative admission that God sometimes predestines people without a reason other than His own desire, is the general objection that such behavior would be unreasonable:

> For every righteous will is conformed to right reason. But the will by which God predestines this person and not another is righteous. Therefore, it is conformed to right reason. Therefore, there is a reason why He predestines this person and not another. But the reason is not in God, since for His part God is equally related to all, inasmuch as He does not play favorites. Therefore, there is a reason in something else, and only in the predestinate person. Therefore, etc.[84]

(R8.3) Ockham's reply is one that we are familiar with from chapter 30.

> ...Every righteous will is conformed to right reason, but it is not always conformed to prior right reason that shows the cause why the will should will this. Rather, by the very fact that the divine will wills this, right reason dictates that it should be willed.[85]

The objector is presupposing that there is some standard of what is right and reasonable independent of divine choice. But it is fundamental to Ockham's theological ethics that the opposite is the case.

## 9. RECAPITULATION

The problem about predestination and reprobation discussed

84. *Ord.* I, d.41, q.u, (OTh IV, 597–98).
85. *Ibid.*, (OTh IV, 610).

so far, arises when one takes (T1) and (T2) for granted and asks after the reason behind such divine choices.

Rightly or wrongly, the theologians we have examined all agree that objections based on (T4) are irrelevant. For unequal distribution of benefits among relevantly similar potential recipients counts against God's justice only if the parties in question had some right to the good in question. But all concur that no rational creature has any right to eternal life. Aquinas, Henry of Ghent, and Duns Scotus maintain, on the contrary, that every fallen human being deserves eternal punishment, while Ockham insists that no creature is intrinsically worthy of either eternal life or eternal punishment independently of and prior to divine institution. That the stakes are so high for the creatures concerned is taken only as a measure of God's generosity to the elect, and no sign of injury to the reprobate.

What divides our disputants is the theological issue of the scope of divine sovereignty. All conceded to Augustine that God is primarily responsible for redemption. Since no creature deserves eternal life, the fact that anyone receives it is a matter of free choice, gracious, and merciful divine choice. Further, all agree that according to existing divine ordinances, no one will inherit eternal life without infused charity or grace (see chapter 30 above). Henry of Ghent and Ockham maintain that God's sovereignty is further manifested in His freedom to choose the criteria according to which He saves some and reprobates others: for Henry, these are reasons of appropriateness; for Ockham, the *de facto* divine ordinances constitute reasons of justice. What they disagree about is whether there is any difference among rational creatures prior to divine election and reprobation that could serve as a reason for these divine choices. Aquinas answers in the negative, insisting that God's choice is entirely motivated by considerations extrinsic to the elect or reprobate creature: viz., the desire to mirror divine goodness in the creation. Scotus says there is no reason of justice for predestination in a creature, although there is for reprobation. Henry of Ghent insists that where adults are concerned, foreseen free choice provides the reason in each case, and Ockham concurs for most cases.

One difficulty is to reconcile such conception of divine sovereignty with the doctrine of (T5) created free choice. Aquinas thinks this is easily done by appealing to his distinction between the universal and proximate causes of an action. Yet, it seems that this line of Aquinas's is consistent with (T2) only if created freedom and contingency are conceived of as compatible with complete divine determinism. Scotus insists that created wills are free in that they are self-determining powers for opposites without succession. Divine predestination brings eternal life to Peter, not by tampering with his choices but by supplying the grace without which none of his choices counts as good or meritorious. Similarly, divine reprobation does not determine Judas's choices but deprives him of this grace. We have seen, however, how this analysis of divine predestination and reprobation is incompatible with Scotus's account of divine foreknowledge in distinction 39. Henry of Ghent and Ockham (for most cases) avoid the suggestion of divine determinism by making the foreseen free choice the motive for election and reprobation. And even where the Blessed Virgin is concerned, Ockham insists that she has at least a free range over good acts.

Another difficulty is whether the foreseen-free-choice theory can be made both philosophically and theologically adequate, however. Before pursuing this issue, it will be helpful to look briefly at a second problem about predestination and freedom.

## 10. THE CONTINGENCY OF PREDESTINATION AND THE NECESSITY OF THE PAST

A second problem—analogous to one about foreknowledge (see chapter 27 above)—leaves the issues of divine motivation and sovereignty entirely aside and rests on a common but not universal medieval assumption that

(T14) The past is necessary

(see chapter 28 above). Suppose there were some past fact *S* such that '*S* obtains' entails '*x* is predestinate', and some past

fact $S'$ such that '$S'$ obtains' entails '$y$ is reprobate'. It follows that '$x$ is predestinate' and '$y$ is reprobate' are necessary the way the past is necessary: i.e., just as there is now no potentiality in the way things are for $S$ and $S'$ not having obtained, so there is now no potentiality in the way things are for $x$ not to be predestinate or $y$ not to be reprobate. In that case, however, there is now no potentiality in God for not giving $x$ eternal life on Judgment Day and now no potentiality in $x$ for not persevering in a state of grace to the end of $x$'s life. Likewise, there is now no potentiality in God for not giving $y$ eternal punishment on Judgment Day, and now no potentiality in $y$ for not dying in mortal sin. But this is contrary both to divine freedom and sovereignty in the redemptive process and to (T5) created freedom, which require that

(T15) The predestinate can be damned

be true taken in the sense of division. Thus, Ockham reasons that

> ...it must be held that whoever is predestinate is contingently predestinate in such a way that he can not be predestinate. Consequently, he can be damned, because he can not be saved. This is clear, because anyone's salvation depends on the divine will that causes contingently. Therefore, it is within God's power to confer or not confer eternal life on anyone. Therefore, anyone can not be saved. Further, eternal life is conferred on an adult only because of some meritorious deed. But every meritorious deed is within the power of the one who earns merit. Therefore, such a person can not earn merit and can not be saved.[86]

Similarly,

(T16) The reprobate can be saved

is true taken in the sense of division.[87]

86. *Ord.* I, d.40, q.u, (OTh IV, 593–94).

87. *Ibid.*, (OTh IV, 594); cf. *Predestination, God's Foreknowledge, and Future Contingents*, q.1, Replies to obj.2, 3, and 3a, (Adams and Kretzmann

In *Predestination, God's Foreknowledge, and Future Contingents*, Ockham considers two candidates for *S* and *S'*. (10.1) Following (T1), the first is God's eternal and immutable volition that Peter should receive eternal life and Judas eternal punishment. Since this is something God wills efficaciously—by His consequent disposing will—(T2) His volition is unobstructable. Hence 'God willed that Peter should receive eternal life on Judgment Day' or 'God predestined Peter' entails 'Peter will receive eternal life on Judgment Day'. And since the past divine volition falls under the necessity of the past, both antecedent and consequent are necessary per accidens. Thus, Ockham's objectors write,

> The proposition 'God predestined Peter' was true from eternity. Therefore it cannot be false. Therefore it is necessary.[88]

And again,

> Since everything that is God or is in God is necessary, divine predestination is necessary. Therefore, necessarily He predestined Peter. Therefore Peter necessarily is predestinate, and so not contingently.[89]

And from this it follows that God will have no choice about the matter on Judgment Day, and Peter none throughout his lifetime.

Ockham joins others in endorsing (T1) and (T2), and he concedes that the real thing with which God's eternal volition is identified is immutable and necessary. Nevertheless, he insists that the direction of that act towards an object is necessary or contingent, according as the object is necessary or contingent (see chapter 28 above). Beginning his reasoning with the assumption of divine freedom and (T5) human freedom, Ockham concludes that, given (T3), God's consequent disposing will regarding predestination and reprobation is not necessary, but contingent. Thus, he writes,

trans., C and D, 38–40), (OPh II, 509–510).

88. Q.1, obj.4, (Adams and Kretzmann trans., E, 40), (OPh II, 510).

89. Q.1, obj.5, (Adams and Kretzmann trans., F, 41), (OPh II, 510–11).

> I maintain that 'Predestination is necessary' can be understood in two different ways. In one way [it can be understood as the claim] that that which is principally signified by the noun 'predestination' is necessary. [Understood] this way, I grant it, since that [which is principally signified] is the divine essence, which is necessary and immutable. In another way [it can be understood as the claim that that which is secondarily signified by the noun 'predestination'—viz.] that someone is predestinated by God [—is necessary]. [Understood] this way, [predestination] is not necessary, for just as everyone who is predestinate, contingently is predestinate, so God contingently predestinates everyone [who is predestinate].[90]

Apparently, focussing on categorical propositions of the sort discussed so far, Ockham comments generally,

> Assumption 2. All propositions having to do with predestination and reprobation are contingent whether they are of present tense—e.g., 'God predestinates Peter' and 'Peter is predestinate'—or of past tense, or of future tense. If any [such proposition] were necessary, it would be one about the past. But 'Peter was predestinate', for example, is neither a necessary proposition nor a proposition *de necessario*. For I ask whether or not Peter could be damned. If not, then necessarily he will be saved, and in that case there would be no need to deliberate or to take trouble—which is absurd. If he can be damned, suppose that he is so in fact. Then 'Peter is damned' is true. Therefore after this instant 'Peter was damned' will always be true. But according to you 'Peter was predestinate' is necessary. Therefore 'Peter was predestinate' and 'Peter was reprobate' will be true at one and the same time; and contradictories follow from these [propositions], as is clear. (Scotus, too, maintains this conclusion.)[91]

The past tense propositions—such as 'God predestined Peter', 'God willed from eternity to give eternal life to Peter', and 'Peter was predestinate'—are about the past verbally and not as regards their subject matter (*secundum vocem et non secundum rem*), and "no proposition about the present having to do with predestination and reprobation has a necessary one about the

90. *Ibid.*

91. *Ibid.*, Assumption 2, (Adams and Kretzmann trans., L, 45–46), (OPh II, 514–15).

past [corresponding to it]."[92]

(10.2) A second version of this problem is generated by the view that predestination and reprobation are real things distinct from substances and qualities and inhering in the predestinate and reprobate persons, respectively. Given (T1) and (T2), it follows that Peter and Judas will have such real relations inhering in them throughout their lives. Further, 'A real relation of predestination inheres in Peter' entails each of 'Peter will persevere in a state of grace to the end of his life' and 'God will give Peter eternal life on the Day of Judgment', while 'A real relation of reprobation inheres in Judas' entails each of 'Judas will die in a state of mortal sin' and 'God will give eternal punishment to Judas on the Day of Judgment'. But at any moment after the first moment of his life, 'A real relation of predestination inhered in Peter' and 'Peter was predestinate' will be necessary propositions about the past, since their truth is settled by the past inherence of that real relation in Peter; similarly for 'A real relation of reprobation inhered in Judas' and 'Judas was reprobate'. Hence, neither Peter nor Judas had any choice in the matter throughout their lives—which is contrary to (T5)—and God will not have any choice in the matter on Judgment Day.

We have seen in the last chapter how Ockham refuses to allow that any created accident is such that it is logically impossible that $A$ inhere in $x$ at an earlier time and God not give $x$ eternal life (punishment) on Judgment Day, on the grounds that past states of affairs among creatures cannot necessitate future divine actions (see chapter 30 above). In *Predestination, God's Foreknowledge, and Future Contingents*, Ockham offers a *reductio* argument that shows how the real relations theory compromises (T5) and (T15)[93] and hence must be rejected.

Ockham's own position avoids this difficulty simply by maintaining that there are no such real relations and that God's consequent disposing will regarding predestination and reproba-

92. *Ibid.*, Assumption 4, (Adams and Kretzmann trans., N, 47), (OPh II, 515).

93. Q.1, (Adams and Kretzmann trans., A, 34–36), (OPh II, 507–508).

tion is just as contingent as the future divine and created actions are. We have seen how this renders the intentionality of divine mental acts mysterious. But either this is a problem that Ockham overlooked, or it is a price he was willing to pay throughout his theology.

## 11. THE ADEQUACY OF THE FORESEEN-FREE-CHOICE THEORY

Let us now return to the question of whether the forseen-free-choice solution can be made both philosophically and theologically adequate. (11.1) *Henry's Version.* Henry of Ghent's solution seems to assume that in order for $R$ to be a reason for $V$, it has to be settled that $R$ prior to its being settled that $V$. And he assumed that posterior to God's decision about whom to create and posterior to its being settled that Adam would fall but prior to His decision about whom to give grace, it is determinately true about some particular free creatures that they would respond positively to offers of grace and determinately true about other particular creatures that they would not. Borrowing Scotus's device of instants of nature, Henry is committed to the claim that at $n_1$ God decides to make Adam, Peter, and Judas and hence it is determinately true that Adam, Peter, and Judas will exist, but not yet determinately true that Adam will fall. At $n_2$, it is determinately true that Adam will fall. At $n_3$, it is determinately true that Judas would respond with a bad use of free will if grace were offered to him, and that Peter would respond with a good use of free will if grace were offered to him, but not yet determinately true that God will give grace to Peter and withhold it from Judas. Given this information, at $n_4$ God decides to give grace to Peter and not to Judas. The sixteenth century Jesuits, Molina and Suarez, called God's knowledge of such conditional propositions "middle knowledge" since it is in between His knowledge of what is actual (e.g., that Peter will accept grace offered to him) and His knowledge of what is merely possible (e.g., that it is possible for Peter to accept grace offered to him and that it is possible for Judas

to refuse grace offered to him).[94]

Assuming, as Henry doubtless would following Aristotle (see Part Two above), some version of the correspondence theory of truth, we must ask what fact it is that makes 'Judas would respond with a bad use of free will if grace were offered to him' and 'Peter would respond with a good use of free will if grace were offered to him' determinately true at $n_3$? (i) Fallen human nature cannot be the whole explanation in either case since it is the same in each case. (ii) Nor can it be said that it is logically necessary that Judas would refuse and logically necessary that Peter would accept such an offer. For not only does the opposite not appear contradictory, but also such refusals and acceptances would then not count as free actions. (iii) Nor can Henry explain that it is causally necessary. For God is first cause. Thus, except for causal chains started by *self*-determining created wills (if any), every causal chain among creatures either has God as its first member, or else God's action is the ultimate explanation of why that created causal chain exists rather than some other or none at all. If Judas's refusal and Peter's acceptance were determined by something outside their own faculties of free choice, then some divine choice would be the ultimate explanation of Judas's refusal and Peter's acceptance, and the latter would not be differences that exist among creatures prior to and independently of divine choice. Hence, such created choices could not serve the function Henry intends. (iv) Perhaps it will be said that while there is no eternal fact that makes 'Peter would respond with a good use of free will if grace were offered to him' determinately true, nevertheless, that proposition is made determinately true by the future fact that Peter is offered grace and accepts it. If so, however, 'Peter would respond with a good use of free will if grace were offered to him' will not be determinately true prior to 'God will offer grace to Peter'. And God will not be able to use His knowledge of the former to decide whether or not to

94. For a discussion of these issues and for some of the points to follow, see Robert Merrihew Adams, "Middle Knowledge and the Problem of Evil," *American Philosophical Quarterly* XIV (1977): 109–117.

verify the latter, the way Henry's solution requires. Further, there is no analogous account of what would make 'Judas would respond with a bad use of free will if grace were offered to him' true, since God never offers him grace. (The same sort of reasoning could be applied to counterfactual propositions of the form 'if $x$ had survived until $t_n$, then $x$ would make a good use of free will at $t_n$' and 'if $x$ had survived until $t_n$, then $x$ would have made a bad use of free will at $t_n$'.) It seems in short that there is no fact that could make such conditionals determinately true prior to God's decision to give grace to Peter and not to Judas. Henry's version of the foreseen-free-choice solution must be pronounced philosophically incoherent.

(11.2) *Ockham's Version.* Ockham's endorsement of (T10a') and (T10b) does not automatically involve him either in Henry's troubles about middle knowledge or in a circle of God's using His foreknowledge of a future act to decide whether or not to supply a necessary condition of that act. For, as often noted, he rejects the Scotistic doctrine of instants of nature and does not take over Henry's account of the divine deliberative process. True, he holds that God knew 'Francis of Assisi will be baptized', 'Peter will persevere to the end', and 'Judas will sin to the end', and that the latter were His reason for willing from eternity to give Francis grace, Peter eternal life, and Judas eternal punishment, respectively. But this may mean no more than that the former are the features that make Francis, Peter, and Judas fall under eternal divine ordinances regarding grace, eternal life, and eternal punishment, respectively. Suppose that from eternity God ordained $L$ (any human being—except the Blessed Virgin and other named individuals—will receive grace if and only if he satisfies one of the conditions $C_1$–$C_n$, where $C_1$–$C_n$ involve human free choice) and $L'$ (any human being —except the Blessed Virgin and other named individuals— will receive eternal life, if and only if he satisfies condition $D$, where $D$ involves human free choice) to govern the redemptive process. As we have seen (in chapter 28), Ockham holds that God necessarily acts in accordance with the laws that He has established. Either such ordinances pertain to God's antecedent will that is settled from eternity, or to God's consequent will

that will be settled only by what God actually does in world history and on Judgment Day. Suppose it is settled from eternity. Then the fact that Peter satisfies one or more of conditions $C_1$–$C_n$ and $D$ may be God's reason for giving eternal life, in that—once it is settled that $L$ and $L'$ are laws—his satisfaction of these conditions during his lifetime is all that needs to be settled in order to settle his eternal destiny. Alternatively, suppose that $L$ and $L'$ pertain to God's consequent disposing will and will be settled only by divine action on Judgment Day. If so, Peter's satisfaction of one or more of conditions $C_1$–$C_n$ is settled prior to some divine awards of grace, and his satisfaction of $D$ is prior in time to God's award of eternal life. Neither explanation is circular or involves middle knowledge. So the charge of philosophical inadequacy that was telling against Henry cannot be levelled against Ockham.[95]

The trouble with Ockham's account is that it seems to eviscerate the original intuition behind the doctrine of predestination, which was that some divine choices from eternity *settled it* that Peter would receive eternal life and Judas eternal punishment. Ockham makes a show of preserving this doctrine by insisting that the past tense propositions 'God predestined Peter from eternity' and 'God reprobated Judas from eternity' are true. But Ockham's solution to the second problem about predestination and human freedom rests on the contention that these past tense propositions are equivalent to the future tense propositions 'God will give eternal life to Peter on Judgment Day' and 'God will give eternal punishment to Judas on Judgment Day', whose truth—though immutable from eternity until Judgment Day—is not settled from eternity. Indeed, it is

95. On the one hand, it might seem that such ordinances would—like divine commands—be included in God's antecedent disposing will that is settled from eternity (see chapter 28 above). If so, however, then such ordinances, together with Peter's perseverance would necessitate God's giving eternal life to Peter on Judgment Day; whereas Ockham has insisted that nothing about a creature can necessitate a future divine action, and has resisted Lutterell's argument that there is no harm in this if God brings the necessity on Himself.

not settled before the ends of their lives and possibly not before Judgment Day.

The Pelagian appearance of Ockham's position raises its head once more. Given that God has established the ordinances governing the redemptive process, it is entirely up to a human being's free choice whether he will qualify for eternal life or eternal punishment. Once again, Ockham will insist that the charge is spurious, since the laws governing salvation are entirely at God's discretion. God would not be unjust if He saved no one, or spared Judas instead of Peter. In any event, Ockham does not see any other way to preserve (T5) and (T15) together with (T1)–(T3). If ancient formulas must be kept, their accompanying interpretations have to shift in the interests of human freedom.

# Bibliography

**Abelard, Peter.** *Dialectica.* Ed. L. M. De Rijk. Assen: Van Gorcum, 1956.

_____. *The Glosses of Peter Abailard on Porphyry.* In *Selections from Medieval Philosophers*, vol.1, 208–258. Ed. and trans. Richard McKeon. New York: Charles Scribner's Sons, 1929.

_____. *Theologia christiana.* In *Opera theologica*, vol.2. Ed. Eligius M. Buytaert. CC, Continuatio Mediaevalis, XII. Turnholti: Typographi Brepols, 1969.

**Adams, Marilyn McCord.** "Did Ockham Know of Material and Strict Implication? A Reconsideration." *Franciscan Studies* N.S. XXXIII (1973): 5–37.

_____. "Intuitive Cognition, Certainty, and Scepticism in William Ockham." *Traditio* XXVI (1970): 389–398.

_____. "Ockham on Identity and Distinction." *Franciscan Studies* N.S. XXXVI (1976): 5–74.

_____. "Ockham's Nominalism and Unreal Entities." *Philosophical Review* LXXXVI (1977): 144–176.

_____. "Ockham's Theory of Natural Signification." *Monist* LXI (1978): 444–459.

_____. "What Does Ockham Mean by 'Supposition'?" *Notre Dame Journal of Formal Logic* XVII (1976): 375–391.

**Adams, Robert Merrihew.** "Middle Knowledge and the Problem of Evil." *American Philosophical Quarterly* XIV (1977): 109–117.

_____. "Theories of Actuality." *Nous* VIII (1974): 211–231.

**Ailly.** See Peter of Ailly.

**Albert of Saxony.** *Perutilis logicae.* Venice: O. Scotius, 1522. Repr. Hildesheim: Olms, 1974.

**Albert the Great.** *Commentarii in I–IV librum Senientiarum.* Ed. A. Borgnet. In *Opera omnia,* vols. 25–30. Paris: Vives, 1893.

**Anselm.** *Cur Deus homo.* In *Opera omnia,* vol.2. Ed. F. Schmitt. Edinburgh: T. Nelson, 1946–1961.

_____. *De veritate.* In *Opera omnia*, vol.1.

_____. *Monologium.* In *Opera omnia*, vol.1.

_____. *Proslogion.* In *Opera omnia,* vol.1.

_____. *Proslogium.* In *St. Anselm: Basic Writings.* Trans. S. N. Deane. La Salle, IL: Open Court, 1962.

**Aquinas.** See Thomas Aquinas.

**Aristotle.** *Aristotle's 'Categories' and 'De Interpretatione'.* Trans. J. L. Ackrill. London: Oxford University Press, 1963.

_____. *Aristotle's 'Prior and Posterior Analytics'.* Ed. W. D. Ross. Oxford: Clarendon Press, 1949.

_____. *De anima.* Ed. David Ross. Oxford: Clarendon Press, 1961.

_____. *Metaphysics.* Ed. W. D. Ross. 2 vols. Oxford: Clarendon Press, 1924.

_____. *Nicomachean Ethics.* In *Basic Works of Aristotle.* Ed. Richard McKeon. New York: Random House, 1941.

_____. *On Coming to be and Passing Away.* Ed. E. S. Forster. London: Heinemann Press, 1955.

_____. *Physics.* Ed. W. D. Ross. Oxford: Clarendon Press, 1936.

_____. *Topica.* Ed. and trans. E. S. Forster. Cambridge, MA: Harvard University Press, 1966.

**Augustine.** *Confessionum libri XIII.* Ed. L. Verheijen. CC, Series Latina, XXVII. Turnholti: Typographi Brepols, 1981.

_____. *Contra Academicos.* Ed. Pius Knöll. CSEL, LXIII. Leipzig: Hölder-Pichler-Tempsky, 1922.

_____. *De diversis quaestionibus octoginta tribus.* Ed. Almut Mützenbecker. CC, Series Latina, XLIV(A). Turnholti: Typographi Brepolis 1975.

_____. *De trinitate.* Ed. W. J. Mountain, CCSL, L–L(A). Turnholti: Typographi Brepols, 1968.

_____. *Lectures or Treatises on the Gospel of John.* Ed. A. Mayer. CC, Series Latina, XXXVI. Turnholti: Typographi Brepols, 1954.

_____. *On Free Choice of Will.* Trans. Anna S. Benjamin and L. H. Hackstaff. Indianapolis: Bobbs-Merrill, 1964.

_____. *On the Trinity.* In *Nicene & Post-Nicene Fathers of the Christian Church*, vol.3. Grand Rapids, MI: Wm. Eerdman's Publishing Co., 1956.

**Averroes.** *Great Commentary on the Metaphysics (Tafsir ma ba'd at-tabi'a).* Ed. M. Bouyges. Beyrouth: Imprimerie-Catholique, 1948. Repr. (partial): *Medieval Philosophy: From St. Augustine to Nicholas of Cusa,* 239–240. Eds. John F. Wippel and Allan B. Wolter. New York: Free Press, 1969.

_____. *On the Harmony of Religion and Philosophy.* Trans. George F. Hourani. London: Luzac, 1961. Repr. (partial): *Medieval Philosophy: From St. Augustine to Nicholas of Cusa*, 235–39.

**Avicenna.** *Avicennae Metaphysices compendium.* Ed. Nematallah Carame. Rome: Pont. Institutum Orientalium Studiorum, 1926.

**Baconthorpe, John.** *Quaestiones in quattuor libros Sententiarum.* Venice: O. Scotus, 1529; Cremona: M. A. Belpierum, 1618.

**Bannach, Klaus.** *Die Lehre von der doppelten Macht Gottes bei Wilhelm von Ockham.* Wiesbaden: Franz Steiner Verlag GmbH, 1975.

**Bird, Otto.** "Topic and Consequence in Ockham's Logic." *Notre Dame Journal of Formal Logic* II, no.2 (1961): 65–78.

_____. "The Tradition of the Logical Topics: Aristotle to Ockham." *Journal of the History of Ideas* XXIII (1962): 307–323.

**Bochenski, I. M.** *A History of Formal Logic.* Trans. and ed. Ivo Thomas. Notre Dame: University of Notre Dame Press, 1961.

**Boehner, Philotheus.** "Centiloquium theologium." *Franciscan Studies* I, no.1 (1941): 58–72; no.2, 35–54; no.3, 62–70; II (1942): 49–60, 146–157, 251–301.

_____. "Does Ockham Know of Material Implication?" *Franciscan Studies II, Commemorative Volume* (1951):

203–230. Repr. in *Collected Articles on Ockham*, #19, 319–351. Ed. Eligius M. Buytaert. St. Bonaventure, NY: Franciscan Institute, 1958.

_____. "The Medieval Crisis of Logic and the Author of the Centiloquium." *Franciscan Studies* IV (1944): 151–170. Repr. in *Collected Articles on Ockham*, #20, 351–372.

_____. *Medieval Logic*. Manchester: Manchester University Press, 1966.

_____. "The Notitia Intuitiva of Non-Existents According to William Ockham." *Traditio* I (1943): 223–275. Repr. in *Collected Articles on Ockham*, #17, 268–300.

_____. "In propria causa: A Reply to Professor Pegis." *Franciscan Studies* N.S. V (1945): 37–54. Repr. in *Collected Articles on Ockham*, #18, 300–319.

_____. "The Realistic Conceptualism of William Ockham." *Traditio* IV (1946): 307–335. Repr. in *Collected Articles on Ockham*, #13, 156–174.

_____. "The Relative Date of Ockham's Commentary on the Sentences." *Franciscan Studies II, Commemorative Volume* (1951): 305–316. Repr. in *Collected Articles on Ockham*, #9, 96–110.

_____. "Der Stand der Ockham-Forschung." *Franziskanische Studien* XXXIV (1952): 12–31. Repr. in *Collected Articles on Ockham*, #1, 1–23.

_____. "Zu Ockhams Beweis der Existenz Gottes." *Franziskanische Studien* XXXII (1950): 50–59. Rep. in *Collected Articles on Ockham*, #22, 399–420.

**Boethius.** *The Second Edition of the Commentaries on the Isagoge of Porphyry*, vol.1, 70–99. In *Selections from Medieval Philosophers*. Ed. and trans. Richard P. McKeon. New York: Charles Scribner's Sons, 1929.

_____. *De topicis differentiis*. Trans. Eleonore Stump. Ithaca, NY: Cornell University Press, 1978.

_____. *De Trinitate*. In *The Theological Tractates*. Eds. and trans. H. F. Stewart and E. K. Rand. London: W. Heinemann, 1918.

**Bonaventure.** See St. Bonaventure.

**Burge, Tyler.** "Mass Terms, Count Nouns, and Change." *Syn-*

*these* XXXI (1975): 459–478.

**Buridan, John.** *Perutile compendium totius logicae.* In *Summula de dialectica.* Venice: Petrus de Quarengiis, Bergonmensis, 1499.

_____. *Quaestiones super octo libros Physicorum Aristotelis.* Paris: P. Ledru, 1509.

_____. *Tractatus de consequentiis.* Ed. Hubert Hubien. Louvain: Publications Universitaires, 1976.

_____. *Tractatus de suppositionibus.* Ed. Maria Elena Reina. In "Giovanni Buridano, Tractatus de suppositionibus." *Rivista critica di storia della filosofia* XII (1957): 175–208, 323–352. Repr. as *Tractatus de suppositionibus,* 1–68. Florence: La Nuove Italia Editrice, 1957.

**Burleigh, Walter.** *De intensione et remissione formarum.* Venice: Bonetus Locatellus, 1496.

_____. *De puritate artis logicae.* Ed. Philotheus Boehner. St. Bonaventure, NY: Franciscan Institute, 1951.

_____. *Super artem veterem Porphyrii et Aristotelis.* Venice: O. Scotus, 1507.

_____. *Super octo libros Physicorum.* Venice: Benetus Locatellus, 1491.

**Burr, David.** "Quanitity and Eucharistic Presence: The Debate from Olivi through Ockham." *Collectanea Franciscana* XLIV (1974): 5–44.

**Buytaert, Eligius M.** "The *Elementarium logicae* of Ockham." *Franciscan Studies* N.S. XXV (1965): 151–276.

_____. "The *Tractatus logicae minor* of Ockham." *Franciscan Studies* N.S. XXIV (1964): 34–100.

**Canonicus, John.** *Quaestiones super Physica Aristotelis.* Venice: Bonetus Locatellus, 1492.

**Chatton, Walter.** *Reportatio* I, d.3, q.2. Ed. Gedeon Gál. In "Gualteri de Chatton et Guillelmi de Ockham Controversia de Natura conceptus universalis." *Franciscan Studies* N.S. XXVII (1967): 191–212 (partial).

**Church, Alonzo.** *Introduction to Mathematical Logic.* Vol.1. Princeton: Princeton University Press, 1956.

**Corvini, Francesco.** "Le *Quaestiones in libros Physicorum* nella formazione del pensiero di Guglielmo d'Occam."

*Rivista critica di storia della filosofia* XII (1957): 385–411.

**Courtenay, William J.** "John of Mirecourt and Gregory of Rimini on Whether God Can Undo the Past." *Recherches de Théologie ancienne et médiévale* XXXIX (1972): 224–256.

_____. "Nominalism and Late Medieval Religion." In *The Pursuit of Holiness in Late Medieval and Renaissance Religion*. Eds. Charles Trinkhaus and Heiko Oberman. Leiden: Brill, 1974.

**Crombie, A. C.** *Medieval and Early Modern Science*. 2 vols. New York: Doubleday Anchor, 1959.

**Cronin, Timothy J.** *Objective Being in Descartes and in Suarez*. Rome: Gregorian University Press, 1966.

**Damascene, John.** *De fide orthodoxa*. Trans. Frederic H. Chase, Jr. In *Saint John of Damascus, Writings* of *The Fathers of the Church, A New Translation*. Vol.37. New York: Fathers of the Church, 1958.

**Day, Sebastian.** *Intuitive Cogntion: A Key to the Significance of the Later Scholastics*. St. Bonaventure, NY: Franciscan Institute, 1947.

**De Wulf, Maurice.** *Le Traité De unitate formae' de Gilles de Lessines*. In *Les Philosophes Belges, textes et études*, I. Louvain: Institut supérieur de philosophie de l'Université, 1901.

**Denzinger, Heinrich.** *Enchiridion symbolorum, definitionum et declarationum de rebus fidei et morum*. Friburgi Brisgoviae: Herder and Co., 1932.

**Descartes, René.** *The Philosophical Works of Descartes*. Trans. Elizabeth S. Haldane and G. R. T. Ross. Cambridge: Cambridge University Press, 1911–1912.

**Desharnais, R. Paul.** *The History of the Distinction Between God's Absolute and Ordained Power and Its Influence on Martin Luther*. An unpublished Ph.D. dissertation, Catholic University of America, 1966.

**Dettloff, Werner.** *Die Entwicklung der Akzeptations- und Verdienstlehre von Duns Scotus bis Luther. Beiträge zur Geschichte der Philosophie und Theologie des Mittelalters,*

Texte und Untersuchungen, 40:2. Münster, Westfalen: Aschendorff, 1963.

**Dionysius.** See Pseudo-Dionysius.

**Duhem, Pierre.** *Le Système du Monde: histiore des doctrines cosmologiques de Platon à Copernice.* 10 vols. Paris: A. Hermann, 1913–1959.

**Duns Scotus, John.** *God and Creatures: The Quodlibetal Questions.* Trans. Felix Alluntis and Allan B. Wolter. Princeton: Princeton University Press, 1975.

_____. *In XII libros Metaphysicorum Aristotelis expositio.* In *Opera omnia*, vol.IV. Ed. Lucus Wadding. Paris: Laurentius Durand, 1639.

_____. *Lectura in librum primum Sententiarum.* In *Opera omnia*, vol.XVI–XVII. Ed. P. Carolo Balic. Vatican: Typis Polyglottis Vaticanis 1950–1973.

_____. *Opus oxoniense.* In *Opera omnia*, vol.V–X. Ed. Lucas Wadding. Paris: Laurentius Durand, 1639.

_____. *Ordinatio.* In *Opera omnia*, vol.I–VII. Ed. P. Carolo Balic. Vatican: Typis Polyglottis Vaticanis, 1950–1973. See also *Lectura in librum primum Sententiarum.*

_____. *Philosophical Writings.* Ed. and trans. Allan Wolter. Edinburgh: Nelson, 1962.

_____. *Quaestiones miscellaneae de formalitatibus.* In *Opera omnia*, vol.III. Ed. Lucus Wadding. Paris: Laurentius Durand, 1639.

_____. *Quaestiones subtilissimae super libros Metaphysicorum Aristotelis.* In *Opera omnia,* vol.IV. Ed. Lucus Wadding, Paris: Laurentius Durand, 1639.

_____. *Quodlibeta.* In *Opera omnia*, vol.XII. Ed. Lucus Wadding. Lugduni: Laurentius Durand, 1639.

_____. *Reportata Parisiensia* I. In *Opera omnia,* vol.XI. Ed. Lucus Wadding. Paris: Laurentius Durand, 1639.

_____. *Reportata Parisiensia* IA. Vat. Borg. 325.

_____. *A Treatise on God as First Principle.* A revised Latin text of *De primo principio*, translated into English along with two related questions from an early commentary on the *Sentences*. Ed. and trans. Allan B. Wolter. Chicago:

Franciscan Herald Press, 1966.

**Effler, Roy.** *John Duns Scotus and the Principle "Omne Quod Movetur ab Alio Movetur."* St. Bonaventure, NY: Franciscan Institute, 1962.

**Etzkorn, Girard J.** "Walter Chatton and the Controversy on the Absolute Necessity of Grace." *Franciscan Studies* N.S. XXXVII (1977): 32–65.

**Findlay, John Niemayer.** *Meinong's theory of Objects and Values*. 2nd ed. Oxford: Clarendon Press, 1963. 1st ed. (1933) published under the title *Meinong's Theory of Objects.*

**Forlivio.** See Jacobus de Forlivio.

**Freddoso, Alfred J.** "O-Propositions and Ockham's Theory of Supposition." A paper (unpublished) read at the Eastern Division, American Philosophical Association, 1979.

_____. "Ockham's Theory of Truth Conditions." In *Ockham's Theory of Propositions: Part II of the 'Summa logicae'*, 1–76. Trans. Alfred J. Freddoso and Henry Schuurman. Notre Dame: University of Notre Dame Press, 1980.

**Gál, Gedeon.** "Adam of Wodeham's Question on the 'Complexe Significabile' as the Immediate Object of Scientific Knowledge." *Franciscan Studies* N.S. XXXVII (1977): 66–102.

_____. "Gualteri de Chatton et Guillelmi de Ockham: Controversia de natura conceptus universalis." *Franciscan Studies* N.S. XXVII (1967): 191–212.

_____. "Henricus de Harclay: Quaestio de significato conceptus universalis." *Franciscan Studies* N.S. XXXI (1971): 178–234.

_____. "Petrus de Trabibus on the Absolute and Ordained Power of God." In *Studies Honoring Ignatius Charles Brady, Friar Minor.* Eds. Romano S. Almagno and Conrad L. Harkins. St. Bonaventure, NY: Franciscan Institute, 1976.

**Geach, Peter T.** *Mental Acts: Their Content and Their Objects.* London: Routledge & Kegan Paul, 1957.

_____. "Nominalism." In *Aquinas: A Collection of Critical*

*Essays*, 139–154. Ed. Anthony Kenny. Garden City, NY: Anchor Books, 1969.

_____. *Reference and Generality: An Examination of Some Medieval and Modern Theories.* Ithaca, NY: Cornell University Press, 1962.

**Gelber, Hester Goodenough.** *Logic and the Trinity: A Clash of Values in Scholastic Thought, 1300–1335.* An unpublished Ph.D. dissertation, University of Wisconsin, 1974.

**Giles of Lessines.** *Correctorium 'Circa'.* See Jean-Pierre Muller.

_____. *Correctorium 'Quare'.* Ed. P. Glorieux. In *Les premières polémiques thomistes.* Le Saulchoir: Kain, 1927.

_____. *De unitate formae.* See Maurice De Wulf.

**Giles of Rome (Aegidius Romanus).** *Commentarium in VIII libros Physicorum Aristotelis.* Padua: Hieronymus de Durantibus, 1493.

_____. *Contra gradus.* In *Aegidii Romani in libros de physico auditu...eiusdem quaestio de gradibus formarum.* Venice: Bonetus Locatellus, 1502.

_____. *De mensura angelorum.* Venice: Simon de Luere, 1503.

**Gilson, Étienne.** *History of Christian Philosophy in the Middle Ages.* New York: Random House, 1955.

_____. "The Road to Scepticism." In *The Unity of Philosophical Experience,* 61–91. New York: Charles Scribner's Sons, 1937.

**Godfrey of Fontaines.** *Les quodlibets onze-quatorze.* Ed. J. Hoffmans. *Les Philosophes Belges; textes et études*, V. Louvain: l'Institute supérieur de philosophie, 1932–1935.

**Gonsalvus Hispanus.** *Quaestiones disputatae et de quodlibet ad fidem codicum mss. editae cum introductione historico-critica.* Ed. Leonis Amoros. Quaracchi: Collegii S. Bonaventurae, 1935.

**Grant, Edward.** *Physical Science in the Middle Ages.* New York: John Wiley and Sons Inc., 1971.

**Gregory of Rimini.** *Super primum et secundum Senten-*

*tiarum*. Venice: O. Scotus 1522. Repr. St. Bonaventure, NY: Franciscan Institute, 1955.

**Grieve, Hermann.** "Zur Relationslehre Wilhelms von Ockham." *Franziskanische Studien* XLIX (1967): 248–258.

**Guillelmus de Falgario.** *Quaestiones disputatae.* Assise, Bibl. Commun., cod. 174.

**Guillelmus de Mara.** *Correctorium fratris Thomae.* Ed. P. Glorieux. In *Les premières polémiques thomistes.* Le Saulchoir: Kain, 1927.

**Henry of Ghent.** *Aurea quodlibeta.* Venice: Jacobus de Franciscis, 1613.

_____. *Quodlibeta.* 1608. Repr. Louvain: Bibliothèque S.J., 1961. Also, in Paris, 1518.

_____. *Summae quaestionum ordinariarum.* 2 vols. Paris: I. Bodius Ascensius, 1520. Repr. St. Bonaventure, NY: Franciscan Institute, 1953.

**Henry of Harclay.** "Utrum in praedestinato sit aliqua causa praevisa a Deo quare iste sit praedestinatus et ille reprobatus?" In "Henry of Harclay's Questions on Divine Prescience and Predestination," 224–243. Ed. Mark Henninger. *Franciscan Studios* N.S. XL (1980): 167–243.

**Henry, Desmond Paul.** *The Logic of St. Anselm.* Oxford: Clarendon Press, 1967.

_____. "Ockham and the Formal Distinction." *Franciscan Studies* N.S. XXV (1965): 285–292.

**Hervaeus Natalis.** *Commentaria in quattuor libros Sententiarum.* Paris: Dyonisius Moreau, 1647.

**Hintikka, Jaakko.** "Aristotle and the 'Master Argument' of Diodorus." *American Philosophical Quarterly* I (1964): 101–114.

**Hoffmann, Fritz,** ed. *Die Schriften des Oxforder Kanslers Johannes Lutterell.* Leipzig: St. Benno-Verlag, 1959.

**Holkot, Robert.** *Quodlibeta* I, q.6. See Ernest Moody, "A Quodlibetal Question of Robert Holkot, O.P., on the Problem of the Objects of Knowledge and of Belief."

**Hume, David.** *An Enquiry Concerning Human Understanding.* Ed. L. A. Selby-Bigge. La Salle, IL: Open Court Publishing Co., 1963.

_____. *A Treatise of Human Nature.* 2nd ed. Ed. L. A. Selby-Bigge. Oxford: Clarendon Press, 1978.

**Ioannes Dacus.** *Quaeritur utrum Socrates sit homo.* Assise, Bibl. Commun., cod. 158.

**Jacobus de Forlivio.** *De intensione et remissione formarum in Burleus de intensione et remissione formarum; Jacobus de Forlonio de intensione et remissione formarum; Tractatus proportionum Alberti de Saxonia.* Venetiis: Per Bonetum Locatellum, 1503.

**Karger, Elizabeth Christiane.** *A Study in William of Ockham's Modal Logic.* An unpublished Ph.D. dissertation, University of California, Berkeley, 1976.

**Kelly, J. N. D.** *Early Christian Doctrines.* London: Adam Charles Black, 1958.

**Kenny, Anthony.** *The Five Ways: Saint Thomas Aquinas' Proofs of God's Existence.* London: Routledge & Kegan Paul, 1969.

**Kirk, G. S.** and **J. E. Raven,** eds. *The Pre-Socratic Philosophers: A Critical History with a Selection of Texts.* Cambridge: Cambridge University Press, 1957.

**Klocker, Harry R.** "Ockham and Efficient Causality." *Thomist* XXIII (1960): 106–123.

**Kneale, William and Martha.** *The Development of Logic.* Oxford: Clarendon Press, 1962.

**Lappe, Joseph.** *Nicolaus von Autrecourt: Sein Leben, seine Philosophie, seine Schriften. Beiträge zur Geschichte der Philosophie des Mittelalters,* Texte und Untersuchungen, 6: 2. Münster: Aschendorff, 1908.

**Leff, Gordon.** *Medieval Thought: St. Augustine to Ockham.* Harmondsworth, Middlesex: Penguin Books, 1958.

_____. *William of Ockham: The Metamorphosis of Scholastic Discourse.* Manchester: Manchester University Press, 1975.

**Locke, John.** *An Essay Concerning Human Understanding.* Ed. Peter H. Nidditch. Oxford: Clarendon Press, 1975.

**Loux, Michael J.,** trans. "Ockham on Generality." In *Ockham's Theory of Terms: Part I of the 'Summa logicae',* 23–46. Notre Dame: University of Notre Dame Press,

1974.

_____. "The Ontology of William of Ockham." In *Ockham's Theory of Terms: Part I of the 'Summa logicae'*, 1–21.

**Maier, Anneliese.** "Diskussionen über das Aktuell Unendliche in der Ersten Hälfte des 14. Jahrhunderts." In *Ausgehendes Mittelalter*, vol.1, 41–85. Rome: Edizioni di Storia e Letteratura, 1964.

_____. "Das Problem der Intensiven Grösse (*De intensione et remissione formarum*)." In *Zwei Grundprobleme der scholastischen Naturphilosophie*, 3–109.

_____. "Das Problem der Quantität oder Räumlichen Ausdehnug." In *Metaphysische Hintergründe der spätscholastische Naturphilosophie,* 139–223. Rome: Edizioni di Storia e Letteratura, 1955.

_____. "Das Zeitproblem." In *Metaphysische Hintergründe der spätscholastischen Naturphilosophie*, 45–137.

_____. 'Zu einigen Problemen der Ockhamforschung." In *Ausgehendes Mittelalter*, vol.1, 175–208. Rome: Edizioni di Storia e Letteratura, 1964.

_____. *Zwei Grundprobleme der scholastischen Naturphilosophie.* Rome: Edizioni di Storia e Letteratura, 1951.

_____. *Zwischen Philosophie und Mechanik.* Rome: Edizioni di Storia e Letteratura, 1958.

**Maimonides, Moses.** *The Guide for the Perplexed.* Trans. M. Friedlander. New York: Dover Publications, 1956.

**Matthaeus ab Aquasparta.** *Quaestiones de anima XIII.* Florence, Bibl. Laur., cod. Aedil. 164.

**Matthews, Gareth B.** "Ockham's Supposition Theory and Modern Logic." *Philosophical Review* LXXIII (1964): 91–99.

_____. "*Suppositio* and Quantification in Ockham." *Nous* VII (1973): 13–24.

**Maurer, Armand.** "Henry of Harclay's Questions on the Divine Ideas." *Medieval Studies* XXIII (1961): 163–193.

_____. "Method in Ockham's Nominalism." *Monist* 61 (1978): 426–443.

_____. "William of Ockham on Language and Reality." In

*Miscellanea Mediaevalia Sprache und Erkenntnis im Mittelalter*, vol.13, part 2, 795–802. Berlin: Walter De Gruyter, 1981.

**McGuire, J. E.** "Existence, Actuality and Necessity: Newton on Space and Time." *Annals of Science* XXXV (1978): 463–508.

**Meiland, Jack.** *Talking about Particulars.* London Routledge & Kegan Paul; New York: Humanities Press, 1970.

**Moody, Ernest A.** "A Quodlibetal Question of Robert Holkot, O.P., on the Problem of the Objects of Knowledge and of Belief." *Speculum*, XXXIX (1964): 53–74.

_____. "Empiricism and Metaphysics in Medieval Philosophy." *Philosophical Review* LXVII (1958): 145–163. Repr. in *Studies in Medieval Philosophy, Science, and Logic: Collected Papers* 1933–1969, 287–304. Berkeley and Los Angeles: University of California Press, 1975.

_____. "Galileo and Avempace: The Dynamics of the Leaning Tower Experiment." *Journal of the History of Ideas* XII (1951): 163–193, 375–422. Repr. in *Studies in Medieval Philosophy, Science, and Logic: Collected Papers, 1933–1969*, 203–286.

_____. *The Logic of William Ockham.* New York: Sheed Ward, 1935.

_____. "Medieval Logic." In "History of Logic," *The Encylopedia of Philosophy*, vol.4, 528–534, at 532. New York: Macmillan, 1967.

_____. "Ockham and Aegidius of Rome." *Franciscan Studies* IX (1949): 417–442. Repr. in *Studies in Medieval Philosophy, Science, and Logic: Collected Papers, 1933–1969,* 161–188.

_____. *Truth and Consequence in Mediaeval Logic.* Amsterdam: North-Holland Publishing Co., 1953.

_____. "William Ockham." In *Encyclopedia of Philosophy*, vol.8, 306–317. New York: Macmillan, 1967.

**Muller, Jean-Pierre.** *Le Correctorium corruptorii 'Circa' de Jean Quidort de Paris. Studia Anselmiana*, XII–XIII. Rome: Herder, 1941.

**Normore, Calvin B.** *The Logic of Time and Modality in the*

*Later Middle Ages: The Contribution of William Ockham*. An unpublished Ph.D. dissertation, University of Toronto, 1976.

**O'Callaghan, Jeremiah.** " The Second Question of the Prologue to Walter Catton's Commentary on the *Sentences*: On Intuitive and Abstractive Knowledge." In *Nine Medieval Thinkers*, 233–269. Ed. J. Reginald O'Donnell. Toronto: Pontifical Institute of Mediaeval Studies, 1955.

**Oberman, Heiko.** *The Harvest of Medieval Theology: Gabriel Biel and Late Medieval Nominalism*. Grand Rapids, MI: William B. Eerdmans Publishing Co., 1967.

**Ockham, William.** *The 'De sacramento altaris' of William of Ockham*. Ed. Thomas Bruce Birch. Burlington, IA: The Lutheran Literary Board, 1930.

_____. *Dubitationes addititiae*. In *Opera Plurima*, IV. Lyon, 1494–1496. Repr. London: The Gregg Press Limited, 1962. Also, the critical edition in *Quaestiones variae,* q.6, (OTh VIII).

_____. *Expositio in librum Praedicamentorum Aristotelis*. Ed. Gedeon Gál. *Opera Philosophica*, vol.II. St. Bonaventure, NY: Franciscan Institute, 1978.

_____. *Expositio in librum Perihermenias Aristotelis*. Eds. Angelus R. Gambatese and Stephen F. Brown. *Opera Philosophica*, vol.II. 1978.

_____. *Expositio in libros Physicorum*. Eds. Conrad Richter and Gerhard Leibold. *Opera Philosophica,* vol.IV–V. In press.

_____. *Expositio super libros Elenchorum*. Ed. Francesco del Punta. *Opera Philosophica,* vol.III. 1979.

_____. *Expositionis in libros artis logicae prooemium et Expositio in librum Porphyrii de praedicabilibus*. Ed. Ernest A. Moody. *Opera Philosophica*, vol.II. 1978.

_____. *Ockham: Philosophical Writings*. Ed. and trans. Philotheus Boehner. Edinburgh and London: Nelson & Sons Ltd., 1962.

_____. *Opus nonaginta dierum*. Eds. R. F. Bennett and H. S. Offler. *Opera Politica*, vol.II. Manchester: Manchester University Press, 1963.

_____. *Ordinatio*. See *Scriptum in librum primum Sententiarum*.

_____. *Predestination, God's Foreknowledge, and Future Contingents*. Trans. Marilyn McCord Adams and Norman Kretzmann. New York: Appleton-Century-Crofts, 1969.

_____. *Quaestiones in libros Physicorum*. Ed. Stephen F. Brown. *Opera Philosophica*, vol.VI. In press.

_____. *Quaestiones in librum secundum Sententiarum (Reportatio)*. Eds. Gedeon Gál and Rega Wood. *Opera Theologica*, vol.V. St. Bonaventure, NY: Franciscan Institute, 1981.

_____. *Quaestiones in librum tertium Sententiarum (Reportatio)*. Eds. Francis E. Kelly and Girard I. Etzkorn. *Opera Theologica*, vol.VI. 1982.

_____. *Quaestiones in librum quartum Sententiarum (Reportatio)*. Eds. Rega Wood and Gedeon Gál with Romauld Green. *Opera Theologica*, vol.VII. 1984.

_____. *Quaestiones variae in libros Sententiarum*. Eds. Girard I. Etzkorn, Francis E. Kelly, and Joseph C. Wey. *Opera Theologica*, vol.VIII. 1984.

_____. *Quodlibeta septem*. Ed. Joseph C. Wey. *Opera Theologica*, vol.IX. 1980.

_____. *Reportatio. Opera plurima*, vol.IV. Lugduni, 1494–1496. Repr. London: Gregg Press, 1962. See also *Quaestiones in librum II–IV Sententiarum*.

_____. *Scriptum in librum primum Sententiarum (Ordinatio)*, Prologus et Distinctio I. Eds. Gedeon Gál and Stephen F. Brown. *Opera Theologica*, vol.I. 1967.

_____. *Scriptum in librum primum Sententiarum (Ordinatio)*, Distinctiones II–III. Eds. Stephen F. Brown and Gedeon Gál. *Opera Theologica*, vol.II. 1970.

_____. *Scriptum in librum primum Sententiarum (Ordinatio)*, Distinctiones IV–XVIII. Ed. Girard I. Etzkorn. *Opera Theologica*, vol.III. 1977.

_____. *Scriptum in librum primum Sententiarum (Ordinatio)*, Distinctiones XIX–XLVIII. Eds. Girard I. Etzkorn and Francis E. Kelly. *Opera Theologica*, vol.IV. 1979.

_____. *Summa logicae*. Eds. Philotheus Boehner, Gedeon

Gál, and Stephen F. Brown. *Opera Philosophica,* vol.I. 1974.

_____. *Summulae in libros Physicorum.* Rome: I. B. Robletti, 1637. New edition. Ed. Stephen F. Brown. *Opera Philosophica*, vol.VI. In press.

_____. *Tractatus de praedestinatione et de praescientia Dei respectu futuris contingentibus.* Ed. Philotheus Boehner. *Opera Philosophica*, vol.II. 1978.

_____. *'Tractatus de successivis' attributed to William Ockham.* Ed. Philotheus Boehner. St. Bonaventure, NY: Franciscan Institute, 1944.

_____. *Treatise on Quantity.* See *The 'De sacramento altaris' of William of Ockham.*

**Paul of Venice.** *Logica magna,* Part I, Fascicule I, *Tractatus de terminis.* Ed. and trans. Norman Kretzmann. London: Oxford University Press, 1979.

_____. *Logica magna*, Part II, Fascicule 6, *Tractatus de veritate et falsitate propositionis et Tractatus de significato propositionis.* Ed. Francesco Del Punta and trans. Marilyn McCord Adams. London: Oxford University Press, 1978.

**Pegis, Anton C.** "Concerning William of Ockham." *Traditio* II (1944): 465–480.

**Pelster, Franz.** "Die Lehre Ockhams vom Grund der Möglichkeit der Possibilien." *Scholastik* XXVIII (1953): 405–407.

**Pernoud, Mary Ann.** "Innovation in William of Ockham's References to the *Potentia Dei.*" *Antonianum* XLV (1970): 65–97.

_____. "The Theory of the *Potentia Dei* According to Aquinas, Scotus, and Ockham." *Antonianum* XLVII (1972): 69–95.

**Perry, John.** "The Same F." *Philosophical Review* LXXIX (1970): 181–200.

**Peter of Ailly.** *Conceptus et Insolubilia.* Paris: Guy Marchaud, 1492.

_____. *Peter of Ailly: Concepts and Insolubles: An Annotated Translation.* Trans. Paul Vincent Spade. Dor-

drecht, Holland and Boston: D. Reidel Publishing Co., 1980.

**Petrus Aureoli.** *Commentariorum in primum librum Sententiarum.* Rome: Vatican Press, 1596.

_____. *Scriptum super primum Sententiarum.* Ed. Eligius M. Buytaert. St. Bonaventure, NY: Franciscan Institute, 1952–1956. At present only through I, d.8, sec.24.

**Peter Damian.** *De divina omnipotentia in reparatione corruptae, et factis infectis reddendis.* PL, 145, col.595–622.

**Peter Lombard.** *Sententiae in IV libris distinctae.* Rome: Collegium S. Bonaventura, 1971.

**Peter of Spain.** *Tractatus.* (Called afterwards *Summulae logicales.*) Ed. L. M. De Rijk. Assen: Van Gorcum, 1972.

_____. *The 'Summulae logicales' of Peter of Spain.* Ed. and trans. Joseph P. Mullally. Notre Dame: University of Notre Dame Press, 1945.

**Petrus de Falco.** *Quaestiones disputatae.* Assise, Bibl. Commun., cod. 159.

**Petrus de Trabibus.** *Commentarium in Sententias.* Assise, Bibl. Commun., cod. 154.

**Petrus Olivi.** *Quaestiones in secundum librum Sententiarum.* Ed. Bernard Jansen. Quaracchi: Collegii S. Bonaventurae, 1922–1927.

**Pinborg, Jan.** *Die Entwicklung der Sprachtheorie im Mittelalter. Beiträge zur Geschichte der Philosophie und Theologie des Mittelalters*, Text und Untersuchungen, 42:2. Münster, Westfalen: Aschendorff, 1967.

**Plato.** *Republic.* Trans. Paul Shorey. Cambridge, MA: Harvard University Press, 1953–1956.

_____. *Timaeus.* Trans. Francis M. Cornford. New York: Library of Arts Press, 1959.

**Plotinus.** *Enneads.* Trans. Stephen MacKenna. 4th ed. London: Faber and Faber Ltd., 1969.

**Priest, Graham** and **Stephen Read.** "The Formalization of Ockham's Theory of Supposition." *Mind* N.S. LXXXVI (1977): 109–113.

**Pseudo-Dionysius.** *Dionysius the Areopagite 'On the Divine Names' and 'The Mystical Theology'.* Trans. C. E. Rolt.

London: SPCK, 1957.

**Quine, Willard Van Orman.** *From a Logical Point of View.* Cambridge, MA: Harvard University Press, 1953. 2nd ed., 1961.

**Ramsey, Frank Plumpton.** *The Foundations of Mathematics and Other Logical Essays.* New York: Humanities Press, 1950.

**Richard of Middleton.** *De gradu formarum.* Ed. Roberto Zavalloni. In *Richard de Mediavilla et la controversie sur la pluralité des formes: Textes inédits et étude critique*, 35–169. Louvain: Éditions de l'Institute Supérieur de Philosophie, 1951.

**Richard of St. Victor.** *De trinitate.* PL, 196, col.887–992.

**Richards, Thomas J.** "Hume's Two Definitions of 'Cause'." *Philosophical Quarterly* XV (1965): 247–253. Repr. in *Hume: A Collection of Critical Essays*, 148–161. Ed. V. C. Chappell. New York: Anchor Books, 1966.

**Robinson, J. A.** "Hume's Two Definitions of 'Cause'." *Philosophical Quarterly* XII (1962): 162–171. Repr. in *Hume: A Collection of Critical Essays*, 129–147.

_____. "Hume's Two Definitions of 'Cause' Reconsidered." In *Hume: A Collection of Critical Essays,* 162–168.

**Russell, Bertrand** and **Copleston, F. C.** "A Debate on the Existence of God." In *The Existence of God,* 167–191. Ed. John Hick. New York: Macmillan, 1964.

**St. Bonaventure.** *Opera theologica selecta: Liber I Sententiarum.* Ed. Leonardi M. Bello. Quaracchi and Florence: Collegii S. Bonaventurae, 1934.

**Scott, T. K.** "Ockham on Evidence, Necessity, and Intuition." *Journal of the History of Philosophy* VII (1969): 27–49.

**Schepers, Heinrich.** "Holkot contra dicta Crathorn." *Philosophisches Jahrbuch* LXVII (1970): 320-354; LXXIX (1972): 106-136.

**Spade, Paul Vincent.** "The Logic of the Categorical: The Theory of Modes of Personal Supposition." A lecture (unpublished) given at the Council for Philosophical Studies, Summer Institute, 1980.

_____. "Ockham's Distinctions Between Absolute and Con-

notative Terms." *Vivarium* XIII (1975): 55–76.

_____. "Ockham's Rule of Supposition: Two Conflicts in His Theory." *Vivarium* VII (1974): 63–73.

_____. "Priority of Analysis and the Predicates of 'O'-Form Sentences." *Franciscan Studies* N.S. XXXVI (1976): 263–270.

_____. "Supposition: The Theory of Reference." A lecture (unpublished) delivered at the Council for Philosophical Studies, Summer Institute, 1980.

_____. "Synonymy and Equivocation in Ockham's Mental Language." *Journal of the History of Philosophy* XVIII (1980): 9–22.

**Stump, Eleonore.** Lectures to the Council for Philosophical Studies Seminar on Medieval Logic, 1980.

_____. See Boethius, *De topicis differentiis.*

**Swiniarski, John J.** "A New Presentation of Ockham's Theory of Supposition with an Evaluation of Some Contemporary Criticisms." *Franciscan Studies* N.S. XXX (1970): 181–217.

**Thomas Aquinas.** *Commentum in quatuor libros Sententiarum.* In *Opera omnia*, vol.VI–VII. Parma: Petri Fiaccadori, 1852–1873. Repr. New York: Musurgia Publishers, 1948–1950.

_____. *De ente et essentia.* Ed. M.-D. Roland Gosselin. Paris: J. Vrin, 1948.

_____. *De potentia.* In *Quaestiones disputatae*, vol.2. Ed. P. Bazzi. Turin: Marietti, 1949.

_____. *De substantiis separatis.* Ed. R. Spiazzi. Rome: Marietti, 1954.

_____. *De universalibus.* In *Opuscula omnia*, no.XXVII, tractatus 1. Paris: Lethielleux, 1927.

_____. *Expositio super librum Boethii De trinitate.* Ed. Bruno Decker. Leiden: E. J. Brill, 1955.

_____. *In Aristotelis librum De anima commentarium.* Ed. Angeli M. Pirotta. Turin: Marietti, 1959.

_____. *In duodecim libros Metaphysicorum Aristotelis expositio.* Ed. R. Spiazzi. Turin: Marietti, 1950.

_____. *In octo libros Physicorum Aristotelis expositio.* Ed.

P. M. Maggiolo. Turin: Marietti, 1954.

_____. *Providence and Predestination: Truth*, questions 5–6. Trans. with an introduction Robert W. Mulligan. Chicago: Henry W. Regnery Co., 1961.

_____. *Scriptum super libros Sententiarum Magistri Petri Lombardi*. 4 vols. Eds. P. Mandonnet and M. F. Moos. Paris: Lethielleux, 1929–1933.

_____. *Summa contra gentiles*. Ed. Leonine. Turin: Marietti, 1946.

_____. *Summa theologiae*. Ed. P. Coramello. Turin: Marietti, 1952–1956.

**Trentman, John.** "Ockham on Mental." *Mind* N.S. LXXIX (1970): 586–590.

**Wallace, William A.** *Causality and Scientific Explanation Volume I: Medieval and Early Classical Science*. Ann Arbor: University of Michigan Press, 1972.

**Webering, Damascene.** *Theory of Demonstration According to William Ockham*. St. Bonaventure, NY: Franciscan Institute, 1953.

**Weinberg, Julius.** *Nicolaus of Autrecourt: A Study in Fourteenth-Century Thought*. Princeton: Princeton University Press, 1948.

**Weisheipl, James A.** *The Development of Physical Theory in the Middle Ages*. London: Sheed, 1959.

_____. "The Place of John Dumbleton in the Merton School." *Isis* L (1959): 439–454.

_____. "The Principle *Omne quod movetur ab alio movetur* in Medieval Physics." *Isis* L (1959): 439–454.

**William of Sherwood.** *Introduction to Logic*. Trans. Norman Kretzmann. Minneapolis: University of Minnesota Press, 1966.

**Wippel, John** and **Allan B. Wolter,** eds. *Medieval Philosophy: From St. Augustine to Nicholas of Cusa*. New York: The Free Press, 1969.

**Wodeham, Adam.** *Quaestiones in I librum Sententiarum*. Transcript of Gedeon Gál from Cambridge, Gonville Caius ms. 281/674 (unpublished).

**Wolter, Allan.** "Ockham and the Textbooks: On the Origin of

Possibility." In "Wilhelm Ockham (1349–1949): Aufsätze zu Seiner Philosophie und Theologie." *Franziskanische Studien* XXXII (1950): 70–96.

**Zavalloni, Robert.** *Richard de Mediavilla et la controverse sur a pluralité des formes: Textes inédits et étude critique.* Louvain: Éditions de l'Institute Supérieur de Philosophie, 1951.

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